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ABSTRACT

This proceeding includes 27 papers: "Tools to Support Information Delivery" (Miller); "Present Trends in European Agricultural Advisory Services" (Nitsch); "The Look of Extension in the Future" (Boyle); "Assessing Needs for Organizational Development, Staff Development, and Management during Periods of Organizational and Enrollment Decline in a Not-for-Profit, Nonformal Educational System" (Applebee); "Character of the Ohio Cooperative Extension Service as Defined by the 1987 Strategic/Long Range Planning Task Force Data Collection Process" (Archer); "Major Roles of Agricultural Extension Agents in the Agricultural Technology Delivery System in the Year 2000" (Bonanno et al.); "Relationship of Marketing Activities and Promotional Methods Used with County 4-H Club Membership in New Jersey and Ohio" (Diem); "Factors Associated with Mastery of the 4-H Professional Research and Knowledge Base" (Gerhard, Smith); "Relationship between Selected Antecedent Characteristics and the Perceived Educational Needs of Extension Agents with 4-H Youth Development Responsibilities" (Rennekamp); "Evaluation Attitudes and Practices of Ohio Cooperative Extension Service County Level Home Economists" (Blount, Gritzmacher); "Marketing Iowa Crafts" (Reilly et al.); "Needs Assessment Methods Used in Extension Home Economics Programming" (Scholl); "Evaluation of Intensive Grazing Management Users in Hawaii" (Cox); "Effect of Staff Downsizing on 4-H Summer Camp Program Implementation" (Barkman); "Determining the Degree of Success of 4-H Summer Camp Promotion and Programming" (Diem); "Organizational Commitment of Agents in the West Virginia Cooperative Extension Service" (Wright et al.); "Reducing Stress Created by Change Agent Roles and Job-Related Factors among Minnesota County Extension Agents" (Smalley, Verma); "Extension's Role in Retirement Concerns of the Maturing Population" (Marion, Iams); "4-H Impact on Alumni" (Woloshuk, Lawrence); "Development of Life Skills of 4-H Club Members" (Waguespack, Moss); "Comparison of Advantaged and Disadvantaged Populations of Adult Learners Using the Expectancy-Valence Paradigm of Motivation and Adult Learner Participation" (Van Tilburg); "Financial Management Training Needs of Extension Home Economists" (Bowen, Gritzmacher); "Role of Graduate Education on Continuing Professional Development of Pennsylvania Extension Staff" (Gregory, Cantrell); "Food and

Nutrition Evaluation Practices of Ohio Extension Home Economics" (McClish, Gritzmacher); "Marketing of Select Fresh Agricultural Products in the Cleveland, Ohio Metropolitan Area" (Drake, James); "Readability of Written Mass Mailing Material Produced at the County Level of the Alabama Cooperative Extension Service" (Johnson, Verma); and "Grounding Instrumentation in Reality" (Van Tilburg, Heimlich). Discussant reactions and six poster sessions are also included. (CML)

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PROCEEDING FOR THE
SYMPOSIUM ON RESEARCH IN
EXTENSION EDUCATION

THE OHIO STATE UNIVERSITY

COOPERATIVE EXTENSION SERVICE,

DEPARTMENT OF AGRICULTURAL EDUCATION,

AND

THE FARM FOUNDATION

DR. KEITH L. SMITH, COORDINATOR

MARRIOTT INN NORTH, COLUMBUS, OHIO

MAY 16-18, 1989

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OSU

Ohio Cooperative Extension Service
The Ohio State University

Administration
2120 Fyffe Road
Columbus, Ohio 43210-1099
Phone 614-422-6181

TO: Extension Educators

The contents of this publication are the result of diligent efforts by respected Extension educators across the country who have, by research and review, identified major concerns of research or have conducted research regarding topics pertinent to Extension.

Three papers are found in this publication which have explored the areas of:

1. Technological Research in Extension, Ms. Mary Miller
2. International Research in Extension, Dr. Ulrich Nitsch
3. The Look of Extension in the Future, Dr. Patrick Boyle

We have also included 24 refereed papers from educators throughout the country concerning such topics as: The Character of the Ohio Cooperative Extension Service as Defined by the 1987 Strategic/Long Range Planning Task Force Data Collection Process, Marketing Iowa Crafts: An Applied Research Project, Use of Satellite TV in Extension Education, The Role of Graduate Education on Continuing Professional Development of Pennsylvania, and others. In addition, we have included abstracts from six poster sessions. These papers were presented on May 16, 17, and 18, 1989, at the Marriott Inn North, Columbus, Ohio.

The Ohio State Cooperative Extension Service is committed to examining research needs as identified by these well-known presenters as well as research needs stimulated by the refereed paper sessions. We are excited about the information contained in these proceedings and invite other Cooperative Extension Services/Agricultural Education Departments throughout the country to involve themselves in similar scholarly activities.

Sincerely,

Keith L. Smith, Chairperson
Leader, Personnel Development, OCES
Associate Professor, Agricultural Education

Other Members of the Symposium Committee
Donald J. Breece, County Extension Agent, Agriculture, OCES
Richard W. Clark, Assistant Professor, OCES, and Ag. Education
Michael P. Hogan, County Extension Agent, Chair,
    Agriculture/Community & Natural Resource Development, OCES
Donnie R. King, Graduate Student, Ag Education, OCES
Larry E. Miller, Professor, Ag Education
Betty J. Reese, Acting South District Supervisor, OCES
Emmalou Van Tilburg, Assistant Professor, Ag Education, and
    Leader, Evaluation, OCES

OCES

The Ohio State University, The United States Department of Agriculture, and County Commissioners Cooperating

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Van Tilburg and Heimlich

AGENDA

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SYMPOSIUM ON RESEARCH IN EXTENSION EDUCATION
May 16-18, 1989
The Ohio State University

(All scheduled functions will be at the Marriott North Hotel)

Tuesday, May 16, 1989

8:30 - 5:30 Registration

9:00 a.m. PRESESSION (sign up for one session):

Ballroom IV - CHAIRPERSON: Dr. Keith Smith

A. Survey Research (beginning level): Measurement and Analysis in Descriptive Research

Dr. Kirby R. Barrick, Prof., Agr. Educ., OSU
Dr. N. L. McCaslin, Assoc. Prof., Agr. Educ, OSU
Dr. Larry E. Miller, Prof., Agr. Educ., OSU
Dr. Keith L. Smith, Leader, Personnel Development, OCES, and Assoc. Prof., Agr. Educ., OSU
Dr. Emmalou Van Tilburg, Asst. Prof., Agr. Educ., OSU, and Leader, Evaluation, OCES

Ballroom III - CHAIRPERSON: Dr. J. David McCraken

B. Relational Research (advanced level): Designing, Conducting, and Analyzing Relational Research

Dr. Kirby R. Barrick, Prof., Agr. Educ., OSU
Dr. J. David McCracken, Prof., Agr. Educ. OARDC/OSU
Dr. Larry E. Miller, Prof., Agr. Educ., OSU
Dr. J. Robert Warmbrod, Prof., Agr. Educ., OSU
Dr. Emmalou Van Tilburg, Asst. Prof., Agr. Educ., OSU, and Leader, Evaluation, OCES

10:30 a.m. Break

12:00 noon Planned Lunch -- **Ballroom III**

1:00 p.m. Presession continued

3:00 p.m. Break

4:45 p.m. Adjourn

Tuesday, May 16, 1989 Continued

SYMPOSIUM:

CHAIRPERSON: Keith L. Smith

5:30 p.m. Welcome/Social -- **Ballroom I & II**
Dr. Bobby Moser, Director, Ohio Cooperative Extension Service
Dr. L. H. Newcomb, Chair, Agr. Ed., The Ohio State University
Larry Ault, Pres., Ohio Cooperative Extension Service, Agents Assoc.

6:30 p.m. Dinner (on your own)

Wednesday, May 17, 1989

8:00 - 8:30 Registration

Ballroom IV -- CHAIRPERSON: Dr. Richard Clark

8:30 a.m. Technological Research in Extension
Mary Miller, Extension Specialist, Instructional Design, Virginia Tech, Blacksburg, Virginia

10:00 a.m. Break

10:30 a.m. CONCURRENT SESSIONS:
SESSION A:
Chair: Margaret S. Godke
Ballroom I

1) Assessing Needs for Organizational Development, Staff Development, and Management During Periods of Organizational and Enrollment Decline in a Not-for-Profit Nonformal Educational System
Glenn J. Applebee, New York

2) The Character of the Ohio Cooperative Extension Service as Defined by the 1987 Strategic/Long Range Planning Task Force Data Collection Process
Thomas Archer, Ohio

3) Major Roles of Agricultural Extension Agents in the Agricultural Technology Delivery System in the Year 2000
Steven C. Bonanno, West Virginia
Layle D. Lawrence, West Virginia
Stacy A. Gartin, West Virginia
Kerry S. Odell, West Virginia

DISCUSSANT: Jeff Moss, Louisiana State University

SESSION B:
Chair: Dennis Elliott
Ballroom II

1) The Relationship of Marketing Activities and Promotional Methods Used with County 4-H Club Membership in New Jersey and Ohio
Keith G. Diem, New Jersey

2) Factors Associated with Mastery of the 4-H Professional Research and Knowledge Base
Gary W. Gerhard, Nebraska
Keith L. Smith, Ohio

3) The Relationship Between Selected Antecedent Characteristics and the Perceived Educational Needs of Extension Agents with 4-H Youth Development Responsibilities
Roger Rennekamp, Kentucky

DISCUSSANT: Wes Budke, The Ohio State University

12:00 noon Planned Lunch -- **Ballroom III**

1:30 p.m. APPLIED RESEARCH SESSIONS:
SESSION A:
Chair: Betty Reese
Ballroom I

1) Evaluation Attitudes and Practices of Ohio Cooperative Extension Service County Level Home Economists: A Research Summary
Laverne Blount, Alabama
Joan Gritzmacher, Ohio

2) Marketing Iowa Crafts: An Applied Research Project
Rae Reilly, Iowa
Janeann Stout, Iowa
Mary Littrell, Iowa

3) Home Economics Planning
Jan Scholl, Pennsylvania

DISCUSSANT: Paul Vaughn, Mississippi State Univ.

SESSION B:
Chair: Charles Miller
Ballroom II

1) An Evaluation of Intensive Grazing Management (IGM) Users in Hawaii
Linda J. Cox, Hawaii

2) The Effect of Staff Downsizing on 4-H Program Implementation
Susan J. Barkman, Indiana

3) Determining the Degree of Success of 4-H Summer Camp Promotion and Programming
Keith G. Diem, New Jersey

DISCUSSANT: Stacy Gartin, West Virginia Univ.

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1) Two Practical Approaches to Analyze Qualitative Data
Thomas Archer, Ohio

2) Money Management Educational Needs of Extension Home Economists
Cathy Faulcon Bowen, Pennsylvania
Joan Gritzmacher, Ohio

3) The Cooperative Extension Game
Lynnette Brubaker, Pennsylvania

4) Determining Staff Development Needs of Pennsylvania 4-H Professionals
Patrick Carroll, Pennsylvania

5) Use of Satellite TV in Extension Education
Julia A. Gamon, Iowa

6) Determining the Economic Worth of Volunteerism
Vicki Genoff, Nebraska

3:00 p.m. Break

3:30 p.m. CONCURRENT SESSIONS:
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Roger Wright, West Virginia
Stacy Gartin, West Virginia
Kerry Odell, West Virginia
Layle Lawrence, West Virginia

2) Reducing Stress Created by Change Roles and Job-Related Factors Among Minnesota County Extension Agents
Jared M. Smalley, Minnesota
Satish Verma, Louisiana

3) Retiree Issues in Arizona
Mary H. Marion, Arizona

DISCUSSANT: Cathy Faulcon Bowen, Penn. State Univ.

SESSION B:
Chair: Cathy Martinez
Ballroom II

1) 4-H Impact on Alumni
Jean Woloshuk, West Virginia
Layle D. Lawrence, West Virginia

2) Development of Life Skills of 4-H Club Members
Bruce Waguespack, Louisiana
Jeffrey W. Moss, Louisiana

3) A Comparison of Advantaged and Disadvantaged Populations of Adult Learners Using the Expectancy-Valence Paradigm of Motivation and Adult Learner Participation
Emmalou Van Tilburg, Ohio

DISCUSSANT: Gary Gerhard, Univ. of Nebraska

5:00 p.m. Adjourn

7:30 - 9:00 **Ballroom I & II -- MODERATOR: Dr. Donald Breece**

Speakers' Forum (Open dialogue for conference participants with Patrick Boyle, Mary Miller and Ulrich Nitsch)

Thursday, May 18, 1989

Ballroom IV -- CHAIRPERSON: Dr. Larry Miller

8:30 a.m. International Research in Extension
Ulrich Nitsch, Dept. of Extension Education, The Swedish University of Agricultural Sciences

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10:30 a.m. CONCURRENT SESSIONS:
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Chair: Annette Ellis
Ballroom I

1) Financial Management Training Needs of Extension Home Economists
Cathy Faulcon Bowen, Pennsylvania
Joan Gritzmacher, Ohio

2) The Role of Graduate Education on Continuing Professional Development of Pennsylvania Staff
Debra A. Gregory, Pennsylvania
Joy Cantrell, Florida

3) Food and Nutrition Evaluation Practices of Ohio Cooperative Extension Home Economists
Marjorie L. McClish, Ohio
Joan Gritzmacher, Ohio

DISCUSSANT: N. L. McCaslin, The Ohio State University

SESSION B:
Chair: Lisa Kitinoja
Ballroom II

1) Marketing of Select Fresh Agricultural Products in Cleveland, Ohio Metropolitan Area
Randall E. James, Ohio
Barbara H. Drake, Ohio

2) The Readability of Written Mass Mailing Material Produced at the County Level of the Alabama Cooperative Extension Service
Earl Johnson, Louisiana
Satish Verma, Louisiana

3) Grounding Instrumentation in Reality: Developing Tools for Extension Educators
Emmalou Van Tilburg, Ohio
Joe E. Heimlich, Ohio

DISCUSSANT: Jamie Cano, The Ohio State University

12:00 noon Lunch -- **Ballroom III**

1:00 p.m. **Ballroom IV -- CHAIRPERSON: Keith L. Smith**

The Look of Extension in the Future
Patrick Boyle, Chancellor, University of Wisconsin

2:30 p.m. Wrap Up/Evaluation

3:00 p.m. Adjourn

TECHNOLOGICAL RESEARCH

IN

EXTENSION

Ms. Mary Miller

Extension Specialist, Instructional Design

Virginia Cooperative Extension Service

Mary Miller is an Extension Specialist, Instructional Design, with the Virginia Cooperative Extension Service (VCES). Currently, she is one of the principal investigators and the project director for a Kellogg Foundation grant entitled "Public Information Systems." This three-year grant will provide VCES the opportunity to develop and deliver interactive video based information systems throughout the Commonwealth of Virginia.

Mary has been involved in the design and delivery of educational material for the past 15 years. She holds a Bachelor of Science degree in Education and a Master's degree in Computer Science, both from Virginia Tech.

TOOLS TO SUPPORT INFORMATION DELIVERY -- THE BUSINESS OF EXTENSION

1989 Symposium on Research in Extension Education
The Ohio State University
May 16-18, 1989

Mary G. Miller
Extension Specialist, Instructional Design
and Project Director
Interactive Design and Development
207 W. Roanoke Street
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061-0530

INTRODUCTION

Before I begin on my official topic of information technologies, I want to tell you a little about myself. I speak to you as an educator and computer scientist, but more importantly as one who has been involved with the Extension mission for 20 years. As the wife of a county agent and the mother of two very active 4-Hers, I have witnessed first hand the involvement of our organization in rural areas. I have seen some very successful stories unfold, but I have also seen some disappointments.

Currently, I see an organization struggling with the hard questions and still looking for the answers. And although I know very few specifics about the Ohio Extension Service, I venture to say that our situations are not that different. I think most of us agree that our performance over the next few years is critical.

I think I was asked to come here today because I represent an effort to explore the development and implementation of new technologies which can enhance and expand what we do. Some think I am an innovative risk-taker; others are not so complementary. I have learned to live with both views. By the end of this hour, I am sure you will have an opinion, and you can share it with me if you like. I promise to do my best to handle it well.

The technologies which I will focus on allow us to deliver programs differently. They are not the automation technologies such as word processing or spreadsheets. The success of those technologies has been well documented. However, it is interesting to note that even with all the documentation of the automation technologies only about one-half of all offices in this country use them.

You might ask, "Can I actually expect to make an impact with technology if we can't even get the most simple, straightforward applications in place?" My answer is YES! I base this answer on the law of "inertia." You remember the law of inertia. It states that a body at rest will remain at rest and a body in motion will remain in motion unless acted upon by an outside force. Well, I happen to think that the outside force has begun to act, and most bodies at rest will begin to move or be declared dead. I don't know about you, but I am not dead; therefore, I move.

It is important to me that you understand I am not a supporter of technology for technology's sake. There are too many other reasons to look to these tools. Therefore, before I demonstrate what I have with me, I want to share with you my view of why I think our organization is a good candidate for some changes, and how I think technology can play a role.

My Perspective on the "State of the Union"

In recent years, our organization has been challenged to prove its effectiveness and efficiency. Our leadership, both at the national and state level has struggled to formulate the organization of the 21st century. There have been informal discussions, heated debates, and even an ECOP Official Task Force. We are searching for directions while trying to maintain course.

Many business executives would describe this condition as an "emergency state"--a term which indicates the importance of every decision, every dollar, and every policy. To emerge from an emergency state in good shape requires every employee to contribute fully. It is a time for creative thinking as well as critical thinking. It is a time to listen as well as to speak. An emergency state requires top notch performance, with little or no room for errors. And, often the individual is required to make compromises for the good of the organization or business.

Before I go on, you might take a moment and ask yourself where you figure into this picture. Do you believe in what you are doing? Do you believe the organization can make a difference? Are you proud to be a part of this organization? Is your energy focused on making it work? Are you willing to listen as well as talk? Some business executives I know would say, "Are you part of the problem or part of the solution?"

All this may sound a little disconcerting, and indeed it can be. But, at the same time, it can be energizing. We often do our best when the pressure is on. For some of us, the next few years may prove to be the most productive, exciting times of our careers. Let's hope it is a most profitable time for Extension.

Those of you who are waiting for me to tell you that technology will solve our problems, will just have to wait. Technology in and of itself does nothing. It is simply a tool. It is an enabler, and, if used correctly, can add to both our effectiveness and our efficiency.

I do believe we can and should address use of the technologies, but for the right reasons and in the right way. The technologies I have with me today focus on information storage, retrieval, and dissemination. I know that as an organization we are involved in both research as well as education, but my focus is not on how we conduct our research, but rather on how we store and distribute our findings.

The Message -- It Really Does Matter

We must remember, however, that the success of our delivery methodologies is directly related to the messages they deliver. Theodore Levitt, of the Harvard School of Business, wrote, "Customers don't buy things, they buy solutions to problems. . . they must be functionally better, valued better, and available better. To create betterness requires knowing what customers think betterness to be. This precedes all else in business." [1] What about our product? Is it "functionally better, valued better, and available better?" We really must start by asking ourselves these questions.

THE EXTENSION BUSINESS

We are indeed in business, although we seldom refer to it as such. We have a product, customers, and competition. We need to be aware of all three components. However, we often find ourselves working in a business world without all the information support structures of business. One good question is, Why?

I believe one of the reasons we have not always implemented appropriate change is the university reward structure. As long as our reward system is one of peer review without regard for client/customer satisfaction, our decisions on how to address the needs of our population will be colored by how well it will be received for review by our peers, not how well we serve our clientele. If writing a publication is rewarded, then we write publications. We must ask ourselves, are we working to please our peers or the public? Unfortunately, new and innovative development in the information technologies has often been under-valued by the peers. Perhaps it is perceived as a threat or perhaps the university system does not really understand the Extension mission, I am not sure. Maybe, on another day we can address the issues of our reward system. But, just for today, we must recognize that it does figure into "who we are" and "what we do."

Let's get back to thinking for a moment about being in business. I think it is important to ask if our current organization could survive in the for-profit world? If so, what tools would we embrace for this business venture? How would our offices look? Where would they be located? What services would be offered? Which ones would be dropped? How would we describe our products and evaluate their worth? How would we publicize our services? What would our publications look like? Where would they be available? What policy would be used to determine which ones are printed, and how would their effectiveness be evaluated? And finally, if you were in business for profit, who would you want as your business partners? I think it is fair to say these are thought-provoking questions. Ones that deserve answers. But, perhaps it is enough to say that if we were in business for a profit we would make changes.

One of those changes would be to provide ourselves with the proper tools. Now, what would some of those be?

Technology -- Having It Is Not Enough

If we agree that we need the tools of our trade, then we must acknowledge that simply possessing them is not enough. Some of you may think that surrounding yourself with technology will immediately improve your image. It will, but only for the short run. The public is far more sophisticated than they used to be. They are not so easily fooled. Too often we have spent dollars on hardware with no dollars for training or applications development. It is amazing, but it has happened. Can you imagine buying a car without having any money for gas or insurance. Sounds a little like an eighteen year old, thinking that the only costs are the obvious ones. Most of us who purchase a car expect that at some point in the future we might need to buy new tires or have the brakes relined. And yet, we often overlook these ongoing expenses with technology purchases. We really cannot afford to purchase expensive dust collectors.

We need to be up-front and honest about the cost as well as the benefits. If we wish to bring technology to bear on some of the issues, then we need to look carefully at our resource allocations. I think we can afford to implement some new technologies, but some of our funding may need to be redirected. Perhaps some of our positions may need to be redefined. I think of it as a matter of priority setting and creative accounting. Perhaps new models for applications development within a region could be effective. I know that Ohio is not all that far from Virginia, and we certainly have a lot in common. I believe that we no longer can afford to "do it all ourselves." We are partners in business, we must act like partners. And again, our reward system must recognize and reward this behavior.

THE TECHNOLOGIES

"Recommendation 31: The Extension System should use the most effective and efficient communications methods for program delivery." [2]

This recommendation in the Futures Report is certainly simple enough. However, getting from point A to point B is not always as simple as it looks. The real catch phrase in the recommendation is, "should use the most effective" -- and to be honest, the answer to that question is not as straightforward as it might seem.

Keep in mind that technology is constantly changing. We seem to be able to store more information, retrieve it faster, send it further, more accurately, for less money every day. Given that the computer industry has only been in business for 40 years, it is amazing that it is our third largest industry, surpassed only by the automobile and oil industries. And, there are no indications that the industry is going to slow down.

Some of us are waiting for the dust to settle before wanting to jump on the technology wagon. There is some merit to this thinking. However, one must know when the dust has settled enough so as not to loose total sight of the wagon. This brings to mind the adoption curve. It is a bell-shaped curve with the adoption rate ranging all the way from those who would adopt any new technology to those who are always one technology behind. You probably know someone at each end of the curve. You know the person who is always looking for the newest, the best, the fastest, and you probably know someone who has finally decided to learn word processing now that most of us are looking at desk-top publishing.

We all benefit from the person who is eager to try something new. However, the risk is too great for everyone to pursue such an attitude. It is equally too great for all of us to be one technology behind. Hopefully, most of us can fall in after the "early adopters" have worked through the kinks.

The Futures Task Force addresses the issue of early adopters by stating, "Individual states should institute experimental programs to study the impact of new technologies on state and county Extension programs. Careful measurement of these effects over time will provide the basic data required to (1) make informed decisions concerning selection of the most appropriate delivery technologies and (2) judge the benefits of expansion of the pilot programs."

What I have with me today are two examples of technology which can work for us to increase our effectiveness and efficiency. Their main benefit is that they allow us to offer programming to clientele in places and at times that are convenient to them. This is different from our traditional mode of thinking. In the past, we have often expected clientele to come to us for information.

This has often required visiting our offices during regular working hours or at specified times for special programs. The technologies of today allow for a much more personalized treatment for information and education. They give us the opportunity to expand our service base and reach clientele who have not been our traditional clients.

The technologies which I will demonstrate are the CD-ROM (compact disc - read only memory) and an interactive video-based information system. Both of these programs represent an effort in Virginia to evaluate those technologies. As director of these two projects, I am convinced of their potential for the organization.

Other technologies which are being evaluated in Virginia include satellite programming, videotapes, computer networks, desk-top publishing, as well as the traditional media of radio, newspaper, and the telephone.

As a side note, I caution you not to laugh because I list the telephone as a technology for the future. We cannot overlook its potential. There is a tremendous installed base of phones which now carry the digital signal. As more and more of our information is stored digitally, the phone network will increase in importance for the consumer. I continue to be amazed that we don't have 24-hour phone information services in all our offices. The technology exists and could be very cost effective. In addition, the FAX machine has added a tremendous tool to our phone. We may find ourselves delivering publications by FAX very soon. And the future promises full color, text, and sound all combined. We are networked to almost every home in this country. If we don't offer more services over the phone line, someone else will. The sad part is they will probably deliver our information. And once again we will loose the credit we deserve for having developed it in the first place.

Virginia's Public Information System

At this point, I am going to demonstrate Virginia's Public Information System (VPIS), an interactive video-based information system. Interactive video is one of the technologies which can expand our services. Although the project being demonstrated focuses on public information, the technology functions well with educational applications as well as training. The Interactive Design and Development Group at Virginia Tech hopes to do some development in all three presentation modes.

Appendix A contains more specific information about the project.

CD-ROM

The second technology I wish to demonstrate is the CD-ROM (compact disc - read only memory). This technology is particularly appropriate for Extension because of its capability to store large quantities of digital information. A single disc can hold the equivalent of 1,500 floppies or 600 megabytes of information. In layperson's terms, this could equate to 10 copies of a set of encyclopedia. Today the technology can include slides, voice, video, and text--all in the same format. The cost of a player is currently $600 and coming down. Attaching the CD to your computer provides vast quantities of information at your finger tips. This can be an important tool for any information broker as well as the broker's clients.

The technology also gives us an opportunity to begin to question our current publication policies.

Every time someone talks to me about the cost of new technology, I ask them about the cost of old technology. Do you know how much our publications really cost? What do they cost to typeset? What do they cost to print? How much do we spend on storage? How much do we spend on shipping? How many do we throw away after they turn yellow? How many times do we give a client a 10-page publication when all he/she needed was a two paragraph answer? Yes, new technology costs money, but don't kid yourself, old technology has a price as well.

I have to be careful here, because I am not promoting the idea that we can do away with our printed material. I am suggesting that if it is also stored digitally we gain in a number of ways.

- We can more effectively search our own material.
- We can afford larger collections at our finger tips.
- It can be distributed outside our offices.
- It can be very cost effective. A copy of a compact disc costs $2.00.

However, if we are going to make real progress with this technology, we must impose on ourselves a more rigid set of development guidelines for text and graphics. Having worked the past six months with the National Compact Disc Project, I can tell you that we have no standards for information storage. In addition, so many of our excellent notebooks and publications are not available digitally. The cost to capture a document in reverse is far greater than capturing the keystrokes.

In addition, we must begin to look at the way we write. When reading an electronic document, many phrases which have meaning in print simply are out of place. For example, "as I illustrated in the last chapter" is meaningless if we have not retrieved the last chapter. Thus, moving to this technology will require some effort, but the benefits will far outweigh the cost.

Appendix B contains more information on the compact disc product demonstrated.

SUMMARY

The information technologies certainly can and should play a large role in our future work. We all agree that proper tools are a given for success in any trade. Yet we have to be convinced to implement technology that has been demonstrated many times as effective. Because most of us are in the business of gathering, evaluating, or delivering information, the tools of information technology are a must for our success. However, the use of these technologies will not assure our success. Technology in and of itself does nothing. They simply can support our efforts to address our national initiatives, share research, evaluate findings, increase job efficiency, and disseminate information.

REFERENCES

[1] Levitt, Theodore. The Marketing Imagination, New York: The Free Press, 1986, p. xxii.

[2] "Extension in Transition - Bridging the Gap Between Vision and Reality," Report of the Futures Task Force to Extension Committee on Organization and Policy, November, 1987.

APPENDIX A

Virginia's Public Information System

Introduction

The Virginia Public Information System is funded in part by a grant from the W. K. Kellogg Foundation. The overall objective of the grant is to develop new methods for information delivery which can provide opportunities for clients to receive information in places and at times convenient to them. Shopping malls and public libraries were selected as the delivery sites for the information systems. Because there is no need for personnel to be stationed with the system, these settings have provided VCES with an ongoing opportunity to expand the service base for other Extension programs without increasing field staff.

This project includes information on consumer products, consumer services, insect identification, Virginia Tech and Virginia State University (Virginia's land-grant institutions), and a section providing information on the most frequently asked questions of Extension agents. Other projects under development will include information on home horticulture and health and nutrition.

The Technology

The system uses computer-based interactive video (CBIV) technology, which is designed for easy access and operation by novice users. This technology couples the power of a computer with the benefits of full-motion video images to produce an integrated presentation. The user controls the presentation simply by touching the screen.

The storage medium for video images in the VPIS is a laser videodisc read by a Pioneer LaserDisc player. This LaserDisc player is controlled by an IBM PS/2 Model 60 computer, and the presentation is seen on the IBM InfoWindow monitor. Audio information is stored on both the computer's hard disk and the video laserdisc. The program presentation uses video, slides, EGA (Enhanced Graphic Adapter) graphics, digital voice, and text. The interactive format of the presentation allows users to move through the content at their own speed. Since visual images, written text, and spoken messages are integrated in this system, users are not limited to one mode of perception in the process of obtaining information. In addition, each system contains a printer to provide users with hard-copy information.

The Presentation Environment

Because the information developed in this project is being delivered in areas of public access, we had to acknowledge that an individual interacting with the system would have the option to walk away at any point during the presentation. It was our assumption that an individual learning session would continue as long as the information was of value to the user and the time required to reach the information was minimal. Obviously, it was important that we provide the flexibility to allow a user to easily and quickly move through the material. In trying to accomplish this added usability, or modular design, the term "interactive" became a key idea.

"Interactive" program material warrants its name because the user is allowed to select menu items to view. Traditionally, however, the user's interaction is really governed and limited by pre-determined program objectives and not necessarily user objectives. This type of program, although interactive in a sense, provides little flexibility to the user. That is not to say a presentation of this type cannot be effective. If the objective is to expose the user to the material, then it can be accomplished with a minimum of interactivity and a fairly linear design. Conversely, if the objective is to allow the user some degree of success in obtaining the information which he/she desires, then the design must reflect a much higher degree of interactivity.

The real challenge in developing effective presentations for a public audience is to identify the pieces of information and design an interface which allows the creation of sessions which are pleasing and informative to the user. A relational database type of structure must be configured which indicates the relationship between pieces of information. The learner's path cannot be predefined because a learner may dynamically change his/her information goals as he/she moves through the material. The "program state" must be able to provide easy access to related states. This type of program negotiation has been referred to by some as "grasshopper" activity, and can provide the user with a learning environment which more closely resembles the normal brain activity.

This design philosophy has been supported by formative evaluation activities. We have found that users embrace the flexibility of this programming style and we anticipate that future development will continue to support maximum user flexibility.

The Delivery Environment

Malls and libraries are being selected throughout Virginia for placement of these systems. These locations coupled with the technology and the presentation environment offer VCES an opportunity to increase services to clientele without increasing field staff. Because there is no personnel stationed with the system, users may engage in a private information gathering session.

In addition, malls offer a number of other benefits:

The opportunity to provide consumer information in a location where many purchasing decisions are made.

Increased convenience for the consumer:

- Last year, more than 42 million people visited 13 of the major malls located in Virginia.
- Malls continue to broaden their services. In many areas, the community center of yesterday has been replaced by the malls of today. This modern "community center" offers an excellent setting to VCES for program delivery.

- Most malls open at 6:00 a.m. for walking and jogging programs and close at 10:00 p.m. In addition, most are open for walk-through traffic seven days a week.

Anticipated Outcomes

This project presents exciting opportunities for consumer program delivery. VCES is looking forward to continued implementation and evaluation of VPIS. We anticipate a number of positive outcomes. They are:

- Increased program opportunities for the citizens of the Commonwealth.
- Increased public awareness of VCES.
- Increased communication with the public.
- Establishment of close working relationships with mall owners, library directors, state agencies, and other state Extension services.
- A decrease in requests for information from an agent when the information is contained on the system and in areas where the system is available.
- An increase in the amount of time an agent may devote to areas other than "problem solving" in response to an individual's request.

APPENDIX B

Extension Information at Your Fingertips
Virginia's First Compact Disc Project

A compact disc holds the equivalent of 1,000 floppy discs. In every day terms, that is 10 copies of a complete set of encyclopedias, or roughly 270,000 pages of text. Certainly, its storage capabilities are impressive, and it holds promise for those of us in the business of delivering information.

During the past nine months, one of the activities of the Interactive Design and Development Group has been to work closely with the Computer Science Department to develop a compact disc. To our knowledge, this disc is the first to hold a large set of Extension information. It will provide VCES the opportunity to evaluate the use of compact discs in the field.

The disc contains roughly 30 sets of information on a wide range of topics. A few of the collections included are the U. S. Geological Survey Data, the University Self-Study Report, the King James Version of the Bible, and enough Extension information to test usability and value in the office setting. Also, several software retrieval packages are included on the disc. All software needed to run the applications is included on the disc.

When the project began, we hoped to identify a large collection of VCES publications and notebooks in digital form, but we were only able to identify a small percent. Because we needed an information collection diverse enough to test the technology, we realized we had two options. We could scan or retype large quantities of information or invite other states with interesting sets of data to participate. We chose to do a little of both.

In addition to the set of VCES information, the disc contains data sets from South Carolina, Louisiana, and Florida.

The following is a brief description of the Extension data included on this first CD.

The Master Gardener Handbook - Personal Librarian: The handbook, including the graphics, is retrievable using a software package, Personal Librarian. Personal Librarian retrieves information based on a Boolean query from the user. The query can be quite simple, such as "tomatoes", or far more complex, such as "(tomatoes and diseases (but not blossom rot))." In response, the program returns a list of articles, in ranked order, which "matched" the query. The user may look through any or all of the articles. It is also possible to send selected readings to a print file. This application is easy to use, and should provide an interesting opportunity for field staff, Master Gardeners, and others to explore the handbook in a new way.

The Master Gardener Handbook - Window Book: Unlike Personal Librarian, Window Book is a structured reading program. This means you request information on a topic, and the program returns a small article of general information. The user may display all words in an article which cross-referenced other articles. These articles may also lead to additional articles. Thus, the reader moves through the information in an interactive manner, selecting only the reading topics of interest to them.

A structured reading environment is excellent for learning material. It allows the user to obtain very small but specific bits of information. This program should provide an interesting opportunity to many.

This Window Book application is actually two in one. One version has a few graphics and one is simply text. The version without graphics fits nicely on two floppies, and could be available directly to clients who have PC compatible machines.

Although the Master Gardener material served as the basis for this application, it contains only the information in the handbook relating to vegetables. With Diane Relf's continued support, we hope to add on to this product in the coming year.

Other VCES Publications: Other materials in the Personal Librarian collections are the microwave oven publications, spray bulletins, and 150 general fact sheets. This set of information is general but very useful. Many of the topics identified in our survey of most-asked questions are contained here.

The Recipe Nutritional Analysis Program: This program is now available to VCES on floppies. We included it on the CD to demonstrate the use of the CD for program storage.

South Carolina's Contribution: South Carolina contributed a copy of CUFAN, Clemson University's Forestry and Natural Resources Data Collection. CUFAN contains all of Clemson's publications, notebooks, and newsletters. Normal access is from a mainframe and updates are daily. This will be the first time Clemson has had the opportunity to explore this database in distributed form.

Louisiana's Contribution: Louisiana contributed a collection of 300 one-page fact sheets. The CD contains these fact sheets in their original form as well as an edited version approved for Virginia use. They are one-to-two pages in length and provide information on a wide variety of topics.

Florida's Contribution: Florida contributed two sets of information, FAIRS and GUIDES. FAIRS contains agricultural information and is retrievable using the FAIRS software. GUIDES is an insect and aquatic weed control database. It also provides its own retrieval package.

Testing and Evaluation: We have placed 14 CD systems in county offices. Our evaluation efforts are focusing on the usability of the software, the flexibility of the technology, and the value of information retrieved.

INTERNATIONAL RESEARCH
IN
EXTENSION

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PRESENT TRENDS IN EUROPEAN AGRICULTURAL ADVISORY SERVICES

Paper prepared for the National Symposium on Research in Extension in Columbus, Ohio, May 16-18, 1989.

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This paper explores some important developments in present European advisory services. It starts by discussing the role of the services in relation to changes in the agricultural sector and in society. Present privatization and commercialization trends in the advisory-services are given special attention. It is concluded that these developments are in conflict with the public interest to reduce surplus production, enhance environmental protection, rural development and assistance of farmers in financial stress.

The second part of the paper deals with the implications of computerbased information technologies for advisory work. An empirical study with Swedish farmers analyzes the role of the new technologies in advisory work and farm management. Among other things the study shows that the technologies can supplement but do not replace face-to-face communication in advisory work.

The last part of the paper discusses the situation of European research in the field of extension. It is suggested that the focus of this research must change and be broadened to include basic questions about the nature, distribution and consequences of information related to agricultural production, rural development

and environmental protection. In Europe where advisory services are not part of the university system this change would require that extension research detaches itself from present close affiliations with the advisory services.

The Role and the Funding of the Agricultural Advisory Services

Agricultural production in the industrialized western European countries has undergone a similar modernization process as in the US. By mechanization, chemicalization and capitalization we have developed a very efficient agricultural sector which produces an abundance of cheap and high quality food. The modernization of European agriculture has also relieved farmers from much of the drudgeries of hard farm work and made possible a transition of manpower from farming to urban services and industries. In Sweden, for instance, farming today occupies less than 4 percent of the country's labor force. This small percentage of the population produces enough food not only for the country to be self-sufficient but also a surplus that has to be exported.

Although most Europeans would probably agree that the past modernization in agriculture was good for our societies, they do not agree in their assessments of the present mode of agricultural production. Some people argue that our present agriculture is very efficient pointing to the fact that never before have consumers had access to such an abundance of food at such a low percentage of their disposable income. Others, however, claim that the agricultural sector is an economic disaster. These people point to the negative impact of current agricultural subsidies which, they argue, have brought the market forces out of order and caused a costly overproduction of food. Still others maintain that the present way of agricultural production must be changed due to its detrimental impacts on the environment, the depletion of non-renewable resources and the degradation of rural communities.

As a whole, the public image of agriculture seems to have deteriorated in many European countries. The public does not appreciate the contribution of agriculture the way it used to do, writes Niels Röling, professor at Wageningen Agricultural University in the Netherlands (1989):

> "the public expense of supporting agricultural overproduction and the burden on the tax-payer for the incredible costs of pollution, and so on, have outweighed in the public mind the contributions which are, of course, cheap food and a very high export production."

Similarly, the director general of the agricultural advisory services in England and Wales, remarks that several factors cause the average voter to become "somewhat disenchanted with farming" (Bell and Bunney 1985:3):

> "Most important, perhaps, is the reluctance of the typical voter, as taxpayer, to fund the mounting cost of the disposal of surplus agricultural production... There is also the fact that many of today's voters have little concern for the security offered by domestic food supplies because they did not experience the exigencies of the second world war. Rather are their eyes set on higher things like the beauty of the countryside which they see as being threatened by modern systems of agri-

cultural production, or on food which is produced by what they regard as 'natural' as opposed to 'factory farming' methods."

Privatization and Commercialization Trends

The recent changes in the agricultural sector and its subsequent deteroriation in the public regard have also affected the agricultural advisory services. For the preparation of this paper I have gathered information on the developments of the advisory services in England, the Netherlands, Sweden and West Germany. In all of these countries the advisory services are public agencies aimed at the implementation of agricultural policies. Up til now the main emphasis of these policies was to promote efficiency and productivity in farming to secure a domestic supply of cheap food. Today, however, due to surplus production and the various negative consequences of new farm practices, a further increase in productivity and efficiency is no longer a governmental concern. In addition, budgetary constraints and the present popularity of a free market philosophy have caused a decrease in the political support of the agricultural advisory services and pushed for their privatization. In some countries the advisory services are now required to cover part of their costs by charging user fees.

In the Netherlands the privatization of the governmental agricultural advisory service has not yet been implemented. It has, however, been decided that the service shall be transferred into a foundation run by farmers' organizations (Röling 1989, Wielinga 1988). This transition is planned to occur gradually over a period of ten years. The new organization is planned to be financed to fifty percent by public funds. It has not yet been decided how the remaining cost will be collected.

In addition to the governmental agricultural advisory service there is, in the Netherlands, a separate organization for socio-economic advice. The focus of the agricultural advisory service is on the farm enterprise and the implementation of agricultural policies, whereas the organization for socio-economic advice focuses on the interest of the individual and the family (Wielinga, 1988). The socio-economic advisory service has been in operation for about twenty-five years and is operated by farmers' organizations. It employs about 215 advisory staff members as compared to 550 in the agricultural advisory service. About half of the cost of the socio-economic service is paid by the Ministry of Agriculture and Fisheries on the condition that the service is free of charge and open to everybody.

In England charging for advice started in 1987. The first year the fee income accounted for about 10-12 percent of the total costs of the advisory service (Jones, 1989). The goal was set to 20 percent for the first two years and is planned to increase to 50 percent by year five (Angell, 1989). Free advice will be restricted to certain areas of public interest such as animal welfare, pollution, conservation and diversification (ADAS, MAFF 1988).

The pamphlets of the English advisory service reflect a strong adherence to the market philosophy. The clients of the advisory service are referred to as "customers" rather than learners. The farm is equivalent to running a business that has to meet "the requirements of today's marketplace". The advisory service provides an expertise "at the forefront of rapidly changing technology and know-how" with an aim "to rival the best in professionalism and thoroughness - and value for money!" (ADAS:3).

To facilitate this commercialization of the English advisory service all staff have received sales and marketing training. The emphasis of the service has changed: "In the past we may have promoted what we thought the industry needed, now it's what is likely to sell" is a comment I received from an English advisory officer. "The transition towards a marketing organization", he added, "requires tremendous changes in content, methods and the orientation of daily advisory work."

This comment also applies to Swedish experiences of the introduction of user fees. Fee charging for agricultural advice was introduced in Sweden in 1984. The goal is to cover approximately one third of the costs for the advisory service by user fees, a goal that has also been accomplished (Karlsson, 1986, 1988a).

My impression from talking to Swedish advisory officers is that most of them were very reluctant and frustrated towards the introduction of the new policies in advisory work. But there were also some who were quite enthusiastic. They were proud of bringing money to the organization and stimulated by receiving an increased attention from their supervisors. They also appreciated the increase in inservice training and evaluation studies that accompanied the introduction of user fees. However, as time has passed the initial enthusiasm has faded. "The new direction and goals of the advisory services are not commonly accepted among field workers", says a report from the National Board of Agriculture (Karlsson, 1988b). The same report notes that income generation has become "an additional goal - although subordinated other goals". The latter part of this comment is not validated by the advisory officers I have talked to. "The only thing that counts is money - your value as an advisory worker is now assessed solely on the basis of the income you generate for the organization", I was told by a well-established and experienced Swedish advisory officer.

As can be expected, the introduction of user fees direct the advisory services towards those farmers who are willing to pay which are usually the better-off farmers. However, in Sweden, public funds are now increasingly allocated to ensure the implementation of specific programs aimed at animal welfare, environmental protection, rural development and measures to decrease the costly surplus production. The advisory services receive money from these public funds according to the amount of work (farm visits etc.) carried out within these specific programs. This money counts equal as user fees collected directly from farmers in the local advisory services' obligation to cover one third of their costs by incomes. Today, the part of the advisory services' income that comes from the implementation of such public programs exeeds the income raised through user fees from the farmers.

In West Germany no measures have been taken towards privatization and fee charging in recent years. To some extent, however, such procedures have long been practised in the northern part of the country, where groups of farmers join in so called "advisory-circles" which share an agricultural adviser. Approximately half of the costs for such an "advisory-circle" is covered by the farmers themselves. For most West German farmers advisory services are provided free, at least in theory. In reality, however, declining public funds and increasing demands on advisers to implement regulatory functions restrict the farmers' access to advisory services. This is considered a very serious problem by my West German sources as at least half of the West German farmers face financial problems and many of them are on the verge of going bankrupt. These farmers in great need are not provided adequate assistance by the public advisory service (Albrecht, 1988, Jungehulsing, 1987, Pahmeyer, 1988).

The Public Interest

As stated above it is no longer of public interest to promote a general increase in agricultural productivity and efficiency. Instead the following four areas stand out to be most important for the public advisory services:

1. Programs to reduce and de-intensify production, as for instance implementation of production quotas, set aside programs where farmers are paid for taking land out of production etc.

2. Programs aimed at decreasing pollution and reinforcing regulations on environmental protection and animal welfare.

3. Rural development in poor or depopulated areas.

4. Assisting farmers facing financial stress in improving their economic and social situation.

In the Netherlands the governmentally subsidized socio-economic service is directed to benefit the last two of these four areas. In Sweden, as described above, public funds are now allocated specifically to the implementation of advisory activities in all of the four areas. However, if governments or other public agencies do not allocate specific resources to these areas, the commercialization of the advisory services will have consequences that act contrary to the public interest. One such consequence is the reluctance of advisers in different organizations to share information with each other. Instead, as shown in an ongoing Swedish study, they start competing for customers with the strongest purchasing power (Waldenström, 1988). Thereby, the advisory service is increasingly directing its resources towards serving the immediate interests of the farmers who are prepared to pay. As these farmers will often ask for advice to intensify their production, the service runs the risk of further worsening surplus production, pollution, degradation of rural areas and to neglect farmers in great need.

Thus, as a result of privatization and commercialization we can expect the advisory services to function increasingly in a way similar to private business consultants. Their activities will be increasingly determined by financial benefit of the organization rather than the public interest. However, as public agencies, they should not ignore the distributional effects of their activity. They also have the obligation to address long-range environmental, social and ethical goals (Nitsch, 1988).

New Information Technologies

Another important development in the European agricultural advisory services is the introduction of new information technologies. It is often suggested that the application of tele-communications, videotex and computers will save costs and increase efficiency in advisory work and replace agricultural advisers. The following quotation is probably representative for many agricultural researchers and administrators:

> "... with the development of interactive software packages the user will be able to feed in data specific to his own enterprise and hence to obtain recommendations that he can act

> upon. The distinction between this form of advice and face to face consultancy will become progressively smaller, and since the latter will always remain expensive it is clear that farmers will slowly but surely come to accept that the computer provides the most effective route for obtaining much of the technical help he requires." (Bell and Bunney, 1985:2)

The applicability of information technology in agricultural advisory work can only be assessed in terms of its contribution to farmers' decision-making and farm management. Thus, to make such an assessment we need to know how farmers actually make their decisions and manage their farms. However, in the literature on new information technologies that I know of, the authors start out from very normative models of farmers' decision-making and farm management and assume that these activities will be improved by a fast delivery of research-based information and an increased capacity to store, process and retrieve such information with the help of computers. From there the authors proceed to exhaustive presentations of the various technologies and computer programs that are available or under design.

The lack of explicit and empirical knowledge on farmers' decision-making and farm management behavior motivated us to conduct a series of interview studies among Swedish farmers to explore the nature of these activities. On the basis of this knowledge we have then tried to define an appropriate role for the new information technologies in farm management and agricultural advisory work (Ekman and Nitsch, 1988; Nitsch, 1989).

The Nature of Farm Management

Not surprisingly our studies confirm that Swedish farmers are human beings, wich means that they include many social and psychological needs and desires in their farm management. Their human needs and desires represent strong motivational forces, without which they would have little drive and commitment to continue their often very demanding farming occupation.

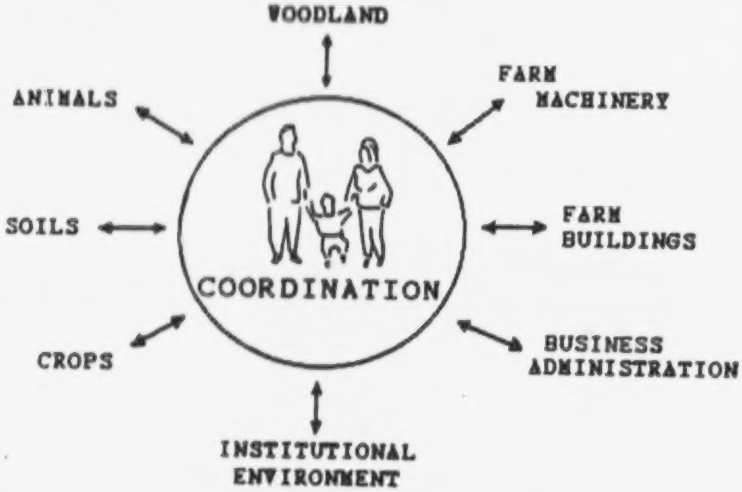

Figure 1. Farmers' coordinations skills are crucial for successful management. (From Ekman and Nitsch, 1988)

We have defind co-ordination as the most crucial element in successful farm management, i.e. the co-ordination of a complexity of social, biological, economic and technical factors involved in farming (Figure 1). To a large extent these factors are not measurable and quite often they are influenced by fairly unpredictable or uncontrollable forces, such as weather conditions, political decisions and market conditions. Therefore, farm management is not a matter of doing everything right. Rather it is a matter of getting approximately the right things done under the specific conditions prevailing on a farm. It is not a matter of optimizing parts, it is a matter of making a totality run in a satisfactory way.

We have identified the competence needed for the co-ordination process as subject matter knowledge, skills in formal planning, practical skills and the ability to understand and interact with the institutional environment (Figure 2). Farmers have to be knowledgeable in all of these four areas to be able to manage a farm satisfactorily. However, this is not enough. The crucial element in the co-ordination process is how to apply these areas of skills/knowledge to the complexities of real farming under the social, physical, economic and biological conditions of a specific farm.

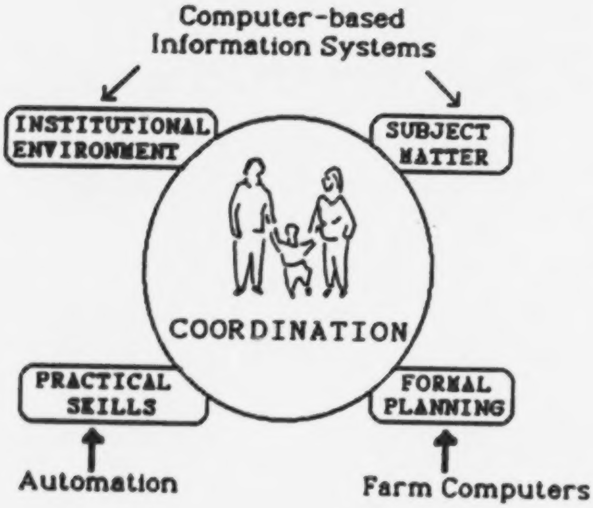
Computer-based Information Systems
INSTITUTIONAL ENVIRONMENT
SUBJECT MATTER
COORDINATION
PRACTICAL SKILLS
FORMAL PLANNING
Automation
Farm Computers

Figure 2. Computers facilitate farm management but do not replace farmers' coordination skills. (From Ekman and Nitsch, 1988

The Systems Approach and Farmers' Co-ordination Skills

Agricultural researchers and administrators also often refer to the systems approach as a superior way of analyzing and optimizing agricultural production. The systems approach, they suggest, enables us to develop models of agricultural production "into which new technologies are injected and evaluated against all of the other factors that will bear upon operational decisions" (Siebert, 1985:4). This kind of comprehensive systems analyzes are now made possible by the computer technology.

The systems approach and computers offer many benefits. But there is no way to capture all aspects of a complex living system, such as farming, in a computer program. No computer will ever handle "all other factors that will bear upon operational decisions" in farm management. As pointed out above, farm management decisions often involve many interacting factors such as considerations of weather, soil characteristics, crops, livestock, farm machinery, access to capital and manpower, market conditions, legislation and, of course, the priorities of the farming family. We can have no exact information on all of these factors, nor do we know their exact relationships. In such a complex system there are many possible solutions and no one correct answer (Supper, 1988).

The correct answer remains with the farmer. It was emphasized above that farming is a human activity. A computer is not equal to a farmer's mind. No matter how many factors we include in our models and how many simulations we run in our computers - successful farm management depends on the unique co-ordinating competence of a farmer, with his/her ability to interprete and apply the computer output to the specific conditions on a farm.

The co-ordination skills cannot be learned in a classroom. They can only be "learned by doing" in the context where they are applied i.e., by working with the machinery, livestock, soils, crops, finances etc. on a farm. The co-ordination skills consist of a combination of knowledge, intuition and practical know-how which cannot be adequately translated into a computer program. To a large extent co-ordination skills represent "tacit knowledge" developed through experience in the farmer's head and body. However this does not mean that computers are useless. Our empirical studies show that computers can be very useful tools in supplementing the four areas of skills/knowledge in farm management described above Figure 2).

The Need for Face to Face Communication

As illustrated by the quotation above, some people expect that the distinction between computer-based information delivery and face to face consultancy "will become progressively smaller". According to our empirical studies this is true only for the retrieval of information relating to trivial and well-defined questions (Figure 3).

VIDEOTEX		PERSONAL COMMUNICATION
WELL-DEFINED QUESTIONS	⟷	COMPLEX PROBLEMS
FAST, UP-TO-DATE INFORMATION	⟷	FACILITATE PROBLEM SOLVING
CONVENIENT	⟷	SOCIAL INTERACTION
RESPONSIBILITY LINKED TO FORMAL RULES	⟷	RESPONSIBILITY LINKED TO COMMUNICATOR

Figure 3. Characteristics of videotex versus personal communication

For complex decisions, where asking the right question is often the greatest difficulty, in situations where it is important to apply one's own experiences and to clarify one's own motives and priorities, and in situations where the information needs to be interpreted and adapted to one's own conditions; in all these instances face to face consultancy remains indispensable. However, in farm management such instances are numerous.

Earlier in this paper four problem areas were identified of particular importance for advisory work from a societal point of view: programs to restrict or de-intensify agricultural production, environmental protection, rural development and assisting farmers in financial stress. There are no easy solutions to these problems. They require the involvement of farmers in careful analyses and continuous search for measures adapted to different situations. Therefore, future advisory work in areas that are of greatest public interest will require an extensive input of personal communication.

Finally, there is an additional dimension in face to face communication that must not be neglected. For many people the interest, support and empathy of a human adviser enhances inspiration, stimulates creativity and is energizing. To my knowledge the importance of this "human effect" of personal communication on farmers' motivation and on the quality of their farm management has not been studied. However, I have learned from my own work experience as an agricultural adviser that it is often of tremendous importance.

Towards a Science of Extension

Most European university departments in the field of agricultural extension are very small and have a strong practical orientation. A large part of their resources are devoted to the teaching of extension methods and not many of the departments engage in research beyond students' Master's theses. Often staff members are involved in inservice training of advisers and participate in committee work and task forces of the agricultural advisory services.

When staff members of the extension departments meet in the European Seminar on Extension Education (ESEE) every two years, much time is devoted to discussions on teaching methods, inservice training, methods in advisory work and other current problems of the national advisory services. The research presented at the seminars is not sufficient to provide a basis for the development of a cumulative body of knowledge. Nor have we formulated a theoretical and conceptual framework to use as a common frame of reference. I do not mean we have to reach consensus on just one theory. But with the present lack of theoretical discussions the research studies in our field remain disparate parts. The quality of the research also suffers from the present atheoretical stage of the art.

As a consequence of this practical and atheoretical tradition extension research has focused largely on the contemporary problems of the agricultural advisory services at each time. Much interest has been devoted to problems related to the dissemination of technical innovations. For some time there was also an interest in studying the distributional effects of the dissemination process. Today, as the advisory services are increasingly commercialized we can expect a research interest in marketing problems.

However, at least in Sweden, research in extension has no future if it continues to follow the path of close affiliation to the agricultural advisory service. First, the institutional basis of this approach is deteriorating as the service is cut down and privatized. Second, we cannot expect continued public funding of research on an activity with unclear goals and questionable outcomes wich is the present situation of our governmental advisory service. If research in extension is to survive it has to stand by its own. It has to broaden its focus to include problems of the larger society and qualify as a scientific activity according to academic criteria.

Important research areas

However, there is a prior question to be answered: is there a need to pursue research in extension as an academic discipline? As the traditional research on the dissemination process has lost its relevance, it could well be appropriate to transfer research funds from the field of extension to other problem areas of greater public or theoretical interest.

My response to this question is that there is a strong need to maintain research in extension from a societal point of view. We have moved into an information society where information is becoming an increasingly important resource for the distribution and generation of power, wealth and welfare. We therefore need to learn more about the nature, distribution and consequences of information activities in all sectors of society, including the agricultural sector. The structure, organization and technology in agricultural production has far-reaching and long-term consequences on many aspects of human life. Therefore, the following kind of questions require continuous systematic exploration:

What are the goals of agricultural research?

How does the knowledge originating from this research relate to societal and individual needs? Whose needs are considered, whose needs are left out of consideration?

What values are pursued? What values are neglected?

What information content and strategies are appropriate to accomplish societal goals with respect to environmental protection, resource preservation, rural development etc.?

By what methods and media is the information best made available to individuals who need it the most?

How can clients be engaged in critical evaluation and active adaptation of information?

How are information services to be organized?

To pursue these questions, extension research has to broaden its focus from agricultural production to the problems of society at large. The "Department of Extension Science" at Wageningen Agricultural University in the Netherlands seems to be moving in this direction when defining its field of research to the following three areas (Röling, 1989):

1. "The persuasion stream, focusing on changing individual behaviour for the benefit of the collective or the future." The focus of this area is to develop strategies for public information activities in the fields of nutrition (eat better), health (smoke less) and environmental protection (pollute less).

2. Citizen mobilization and participation i.e., "helping groups and individuals be more effective knowledge utilizers, lobbyists, more effective in improving their socioeconomic position, and so on".

3. Developing a conceptual framework for the study of knowledge and information systems. A knowledge and information system refers to institutions, organizations and/or persons and their linkages and interactions, engaged in the development and transmission of information with the purpose of influencing public opinion or supporting decisionmaking and problemsolving in a given sector or domain (Röling, 1988).

In Europe the agricultural advisory services are not part of the universities but performed by governmental agencies, farm organizations and private firms. Therefore, the broadening of extension research that I am suggesting requires that we detach ourselves from present close associations with institutions and organizations providing agricultural advisory services. The study of information dissemination to promote efficiency and productivity in farming is no longer a sufficient basis for research in extension. Instead we must develop an independent and critical approach in our research and find our professional identity in relation to a scientific community. The legitimacy of extension as an academic discipline rests on the quality of its research and the relevance of its activities to society at large.

References

ADAS. Undated. The Challange of Change. Meeting the Needs of Agriculture into the 90s. Ministry of Agriculture, Fisheries and Food, London.

Albrecht, Hartmut. 1988. Staatliche landwirtschaftliche Beratung: Aufgaben und Wirklichkeit fallen auseinander. Mimeo from Institut für Agrarsoziologie, Landw. Beratung und Angewandte Psychologie, Universität Hohenheim, Stuttgart.

Angell, Brian. 1989. Letter of the author dated February 18, 1989.

Bell, R.L. and Bunney, F.M. 1985. The New Challenges for Agricultural Advisory Services. Ninth Working Conference of Directors of Agricultural Advisory Services, OECD, Paris.

Ekman, Lars and Ulrich Nitsch. 1988. Datorkraft och bondförnuft. Report 1, Department of Extension Education, Swedish University of Agricultural Sciences, Uppsala.

Jones, Gwynn. 1989. Letter to the author dated January 9, 1989.

Jungehülsing, H. 1988. Beratung - Dienstleistungsangebot mit Zukunft - Warum das Beraten immer schwieriger wird. Mitteilungen für die Wirtschaftsberatung der Landwirtschaftskammer Hannover, Karlsson, Harry. 1986. Avgiftssystem och marknad för lantbruksrådgivning i Sverige. Mimeo from the National Board of Agriculture, 1986-12-03, Jönköping, Sweden.

Karlsson, Harry, 1988a. OECD-inquiry on Advisory Services. Mimeo from the National Board of Agriculture, 1988-07-14, Jönköping, Sweden.

Karlsson, Harry. 1988b. Follow-up of Extension Services provided by the County Agricultural Boards. Mimeo from the National Board of Agriculture, 1988-09-06, Jönköping, Sweden.

MAFF (Ministry of Agriculture, Fisheries and Food). 1988. MAFF in the Midlands and Western Regions. London.

Nitsch, Ulrich. 1988. The Legitimacy of the Agricultural Extension Service. Article to be published in a forthcoming issue of the journal Agriculture and Human Values.

Nitsch, ULrich. 1989. Farmers and Computers. Forthcoming in Magnus Florin and Bo Göranzon, Artificial Intelligence, Culture and Language, Springer Verlag, West Berlin.

Pahmeyer, H.L. 1988. Landwirtschaftsberatung in der Zukunft: ...aus Sicht der Officialberatung. Mitteilungen für die Wirtschaftsberatung der Landwirtschaftskammer Hannover, 4/88, pp. 15-24.

Röling, Niels. 1988. The R/E Interface: A Knowledge System Perspective. Department of Extension Science, Wageningen Agricultural University, The Netherlands, 1988.

Röling, Niels. 1989. Letter to the author dated January 24, 1989.

Siebert, Jerome B. 1985. Programmes considering the New Market Situation. Ninth Working Conference of Directors of Agricultural Advisory Services, OECD, Paris.

Suppe, Frederick. 1987. The Limited Applicability of Agricultural Research. Agriculture and Human Values, Vol IV, No 4, pp. 4-14.

Waldenström, Cecilia. 1988. Frames of Knowledge in Agricultural Extension Organizations. Paper presented at the 7th World Congress for Rural Sociology in Bologna, Italy, June 25-July 2, 1988.

Wielinga, H.E. 1988. The Agricultural Extension System in The Netherlands. Ministry of Agriculture and Fisheries, The Hague.

THE LOOK OF EXTENSION

IN THE

FUTURE

DR. PATRICK BOYLE, CHANCELLOR

DEAN AND DIRECTOR

WISCONSIN COOPERATIVE EXTENSION SERVICE

Patrick G. Boyle's tenure as Chancellor of the University of Wisconsin--Extension began on July 1, 1983. As head of the third largest institution within the UW System, Chancellor Boyle is responsible for the development, coordination, and monitoring of extension and continuing education activities within the entire UW System and in the 72 Wisconsin counties.

A native of Mauston, Wisconsin, Patrick Boyle earned his Ph.D. in Extension Education from the University of Wisconsin--Madison in 1957. He has been a professor in the Department of Continuing and Vocational Education, UW--Madison since 1958.

Chancellor Boyle also served as director of the UW--Extension Division of Program and Staff Development from 1966-82, and as Acting Chancellor from 1982-83.

In 1968-69, Chancellor Boyle was a visiting professor at University College, Dublin, Ireland, where he established a graduate degree program in extension education. He has chaired dozens of state and national committees on higher education and extension and is currently chair of the Council of Extension and Continuing Education of the National Association of State Universities and Land-Grant Colleges.

Chancellor Boyle is the author of numerous articles and publications on continuing education and extension, including a book, Planning Better Programs. He and his wife Mary are the parents of two sons, Steven, an insurance salesman, and James, a nuclear engineer.

"The Look of Extension in the Future"
Paper for the 1989 Symposium on Research in Extension Education
Ohio State University
May 18, 1989
by

Patrick G. Boyle
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Director, University of Wisconsin-Extension Cooperative Extension Service

I. INTRODUCTION

Good afternoon. I'm delighted to be here today -- even though right after lunch is a more conducive time to get people excited about a nap than about the future.

I was asked to help you consider "The Look of Extension in the Future" and the research needs related to defining that "look."

I've been away from research for several years because of the heavy demands of administration, but I do have some ideas about the needs for change -- and for research to help us guide Extension aggressively into the 21st Century.

First, however, I'd like to briefly define the environment in which this research will take place -- where we've come from and where we think we're going. The needs of society and the needs of Extension are inseparable when we try to define that environment.

II. THE CURRENT ENVIRONMENT

In 1989, we're celebrating 75 years of glory for the Cooperative Extension system -- 75 years of dynamic, practical, high quality educational programs that have helped this country become a world leader in food production, scientific discovery, and economic advancement.

Over the years, we've been threatened with funding cuts and criticism that we're no longer relevant -- that we haven't kept up with changing times, that we focus on a minority of rural issues, that we're not meeting real needs. We've survived only because we've been able to demonstrate that we are a changing, dynamic organization with a high quality program that does meet the changing needs of people and society.

Perhaps the most serious threat to our existence and impact were the federal budget reductions of a couple of years ago. This action stimulated intense adminstrative and program activity to improve program relevance and enhance political support.

During the past two years the Cooperative Extension System has responded to this challenge for change by undertaking and completing several significant actions affecting the future, including:

- The identification and acceptance of the nine National Initiatives, which provide focus and direction for our programs.

- A Futures Task Force Report, which addresses many structural, programmatic, and personnel changes necessary for the System to remain relevant in a rapidly changing society.

- A Strategic Planning effort that's provided the basis for Cooperative Extension to be pro-active in dealing with unanticipated changes in society.

- Implementation of Issues Programming as a way to energize the entire System. Issues programming -- and by that I mean educational responses that begin with the identification of issues and proceed to tailor the organizational resources, delivery methods, and structure to meet the needs related to the issue -- can, and does, demonstrate Cooperative Extension's "proactive" leadership role in addressing critical needs.

- And now the national Extension Committee on Organization and Policy is preparing to change its structure, function, and operational procedures to more effectively represent the System, as well as to respond to emerging issues and concerns.

All these activities and changes have provided a vision -- a direction for the future, a place in society for the Cooperative Extension System to flourish, not merely survive.

Now, we face another challenge, perhaps our most formidable. We have a challenge to maintain the momentum of change and put all these best-laid plans into action if we expect to be effective and relevant in the real world of the 21st Century.

III. THE CHALLENGES

One observer of change quotes a statement he attributes to Freud:

> "Trying to change a university is like trying to rearrange a cemetery."

Sometimes I think rearranging a cemetery would be easier. The headstones have tenure, but they can't talk back.

With our 75-year tradition, based primarily in the colleges of Agriculture, there are many barriers to change in Extension:

- We have a comfortable status quo, with traditional clientele and their traditional expectations;

- It's easier to be reactionary rather than pro-active;

- Our programs are often based in traditional CES disciplines, rather than on issues and needs -- in which case, the answer precedes the question.

- Most of our resources are assigned to permanent staff, structures, and methods –– tenured faculty hired 20 years ago to meet needs that no longer exist.
- We have a number of tried and true traditional delivery methods that will need change to reach new and different clientele.
- The complex challenges of the future require innovation, creativity, flexibility, and collaboration with new organizations and groups –– all of which involve some risk.

Let's talk about how to overcome these barriers and meet the challenges of the future. To accomplish this, we'll need research about the actions needed to answer six major questions important to the future of Extension.

1. Who are We Listening To?

The first question is "Who are we listening to?

We in Extension have a long tradition of basing our programs on the needs of people –– in fact it's become a cliche that implies that we're constantly listening to discover the real needs of people and communities.

But what are we hearing? Are our clientele telling us about what's going on in the real world and how it's affecting them? If so - and if we're listeing to them, than our programs should be rsponsive to the enormous changes taking place all around us.

Our agricultural programs, for example, should be focusing less on production and more on profits, marketing, and environmentally sound ways to sustain our natural resource base. If they aren't, then we're not in touch with reality and we're not listening to the right people.

If our Extension programs on strengthening families aren't reflecting that most women now work outside the home and that one in every four children lives with only one parent, then we're not in tune with the times.

If our rural revitalization efforts aren't aware that our lives now depend more on international trade and floating exchange rates than on the gold standard or the dollar, then we're out of touch.

If our programs are not dealing with the rapid changes brought about by computers, robotics and advanced technology, the declining natural resource base, the global economy, the growing ethnic and cultural diversity of our society –– then we're not listening very well –– or else we're not listening to a broad cross-section of people representing a wide variety of diverse interests and needs.

Just last week, a legislator told me that he had a complaint that a county extension agent in his district had refused to help some folks who were trying low-input organic farming. Here were some people who were in touch with the dangerous environmental impacts of fertilizers, pesticides and herbicides on the groundwater supply –– and the agent didn't want to listen to them. If he had, he might have helped them prove that producing 100 bushels without expensive inputs can be just as profitable as producing 175 bushels at a higher cost –– both to the environment and the farmer's pocketbook.

Existing clientele are a valuable group of participants and supporters of Extension -- but some of them don't want anything to change. Besides, it's nice and comfortable just to listen to the same middle class folks who already are involved in our programs, with their traditional expectations.

But it doesn't get at the problems of other folks who need us. We must reach out to new target audiences -- especially the hard to reach and non-traditional audiences. The Extension Homemakers won't tell us the same things as a single working mother. We've got to find new ways of involving low income people, minorities, troubled teen-agers, organic farmers, entrepreneurs, single parents, dual-worker families, and the elderly in our programs. Their needs affect the lives of the entire community.

But how do we reach them? How do we know what they need? We have to really listen to the people -- all the people -- environmentalists, students, consumer groups, legislators, low-income people, city people, minorities.

Maybe we need some new listening devices. Many large corporations today are basing multi-million dollar decisions on what they hear from their workers and customers in round-table discussions.

We need new proactive research into the best methods to scan the total environment of needs of Extension programs -- the best ways to reach and teach new clientele -- not just passive research on attitude and behavior changes among those we're reaching already.

2. Are We Focusing on Relevant Priority Issues?

The second question is "Are we focusing on relevant priority issues?"

I'd like you to guess the lead news story on all three television stations in Madison, Wisconsin last week. No -- it wasn't the Ollie North trial or the Alaskan oil spill. It was a news conference on an Extension survey about the wages and benefits of Wisconsin's child care workers.

Surprised? How come? Child care is one of the nation's most critical current issues. Our Extension home economists should be on the cutting edge of this problem in every state. But are they?

What about sustainable agriculture? It's another topic at the top of the news in my state. Is Cooperative Extension part of the problem or part of the solution? It's time we caught up with this issue.

What about AIDS? Groundwater pollution? Acid Rain? The declining rural economy? Hazardous and solid waste? Drug and alcohol abuse? Teenage pregnancy?

Are we really dealing with the most relevant social, economic and public policy issues issues of the day?

We can do it if all our time and resources aren't stuck in traditional programs and disciplines. In many cases, however, we're approaching issues not from a problem-orientation, but from the traditional discipline base -- in which case the answer precedes the question.

Since new resources are very limited or unavailable, the current program has to change. This means re-directing current resources and programs to deal with relevant new issues and clientele.

- In 4-H it doesn't mean helping kids raise chickens in their back yards. It means teaching new things to kids — not a program on antibiotics for chickens, but a program on drugs that kids take — crack, speed, and dope.

- In Family Living and Home Economics programs, it doesn't mean canning, sewing, and interior decorating. It means working on family stress, latchkey children, quality housing, needs of the elderly and low-cost nutrition.

- In Agriculture and Natural Resources, it means shifting emphasis from production to profits, from exploitation of land to preservation of soil and water quality.

If we're as dynamic an institution of change as we say we are, we'll have the courage to attack controversial issues and eliminate some popular programs so we can put those resources into new priorities.

If we do -- Extension will have another glorious anniversary celebration 75 years from now. If not -- we'll be obsolete long before that anniversary comes along.

We'll need research to help us figure out how to attack the priority issues facing people in each state and county -- research that identifies the specific clientele to be reached, along with the disciplines and methods needed for effective programming on these issues.

3. Does Cooperative Extension Have a Broad-Based Program?

The third major challenge -- and this can be a tough one -- is to broaden both the focus and the discipline base of the program. Today's complex problems require that we expand our focus to include the entire wide range of elements that contribute to the problem. They also require more specializations and expertise than we have in our traditional Cooperative Extension program areas.

For example -- if we can describe a broad-based program in economic development that includes emphases on rural development, land use and zoning policy, local government education, natural resource policy, community economic analysis, tourism promotion, business management education, architectural and landscape assistance, feasibility analyses, and downtown revitalization — then we can say we've mounted a significant, multi-facted attack on this significant problem. But if our economic development program is focused strictly on increasing agricultural production -- we can't make a dent in the significant economic needs of rural communities.

Having a truly broad-based program will require new disciplines and expertise among both agents and specialists.

For example, in a program on water quality, we need a team of experts in chemistry, geology, agricultural engineering, and soil science. And if we're educating people and government officials on public policy related to water quality, we may also need resources in law, economics, and political science.

The Extension Service Report on National Initiatives includes no less than seven recommendations that point out the need for Cooperative Extension:

- To transcend the former boundaries of traditional program areas and disciplines.
- To use all appropriate expertise and relevant department faculty from throughout the Land Grant university.
- to form interdisciplinary problem-solving teams focused on priority issues.

If Cooperative Extension is serious about issues programming related to today's complex needs, then resources of the University that are not traditional Cooperative Extension disciplines must be made available. At the same time, our existing disciplines also have to adapt to teach new things.

- We will need organizational and structural changes to allow for full utilization of all the disciplines and resources of the land grant system.
- The compelling issues facing people must drive the system, not the limitations of traditional program areas and funding structures. We must focus on their issues, rather than "our" disciplines as we develop programs and allocate resources.
- This may mean major structural changes to build many new bridges within the academic community. We should probably eliminate the traditional Cooperative Extension program areas and replace them with issue-oriented task forces that involve a broader base of disciplines and faculty expertise in programming.

Involving new disciplines than the traditional Cooperative Extension disciplines will require both new organizational structures and faculty re-orientation. You may not find comparable faculty to a dairy specialist in engineering, business, chemistry, or law -- and you can't make these faculty think in terms of teaching and working outside the traditional classroom overnight.

We're going to need a lot of new research on the best structures to accomplish these goals and the best ways to build the necessary bridges within the academic community.

4. Does Extension Have the Strong Committment of the Total Land-Grant Institution?

We can't meet our commitments to a broad-based program focused on the priority issues of the future if we can't draw upon all the disciplines of the total University.

The validity of the Land Grant concept is that teaching, research, and extension are all three equally important functions of every school/college and department -- every department. Extension responsibilities are not limited to a certain group of departments anointed by history, tradition -- or even funding.

One of the most important challenges we face is to improve the priority and credibility of Extension in the total University. The priority of the Extension function within our universities is shakey. Most universities believe they can operate on two legs of the traditional three-legged stool. We can't make that third leg -- Extension -- stand up unless we get the committment of the total university.

This commitment must start with the Board of Regents, administrators on all levels, state legislators, and faculty in all schools, colleges and departments.

- How many Boards of Regents have recently reaffirmed the importance of the Extension function in a policy statement?
- Are the top adminstrators of our universities talking publicly about the critical importance of Extension programs?
- Do state agencies, legislators, and other government officials call on Extension faculty to consult, cooperate, and help create public policy?
- Are faculty and staff who perform the Extension function given equal status in tenure and promotion decisions, in salary increases, or on faculty governance groups?

The Regents, the President, your state legislators, all have to believe that Extension is important -- and it wouldn't hurt if they believed that Extension is the most important function of the University.

- We need to see this commitment expressed in strategic plans, policies, reports, budget requests, brochures, press releases, speeches, and mission statements of the total university.
- We must get both leadership and mainstream support and commitment for issue-oriented programming by Cooperative Extension and by every other segment of the Land-Grant university.

And we could use some research on the best ways to get this support and commitment.

5. Are We Developing New Coalitions and Linkages?

Our traditional old coalitions will not give us all the necessary political or practical support to meet the new issues. Our new agenda for the future requires new linkages.

There are lots of other agencies, institutions and organizations out there -- with different contacts, expertise, resources, and methods than we have. Some of them are better.

We have to link up with them to make the greatest impact. They can offer many valuable contributions to our program -- not only in terms of the multiplier effect, but also in terms of the program's quality and results. In fact -- without new coalitions, there are many problems we can't address at all.

One of the best examples of the need for new coalitions is the national initiative on "Youth at Risk." If we really mean to accomplish anything on the new problems facing young people -- drugs, alcohol, teen pregnancy, school drop-outs, a future world of work that requires more technical and scientific education -- it means working with families, PTO's, churches, other youth organizations, the YMCA and YWCA, state agencies, health providers, and especially with the public school system -- school teachers, counselors, and administrators. It also means working with new and nontraditional groups -- Planned Parenthood, the police department, gang leaders, drug treatment counselors.

These cooperators can help our program in several ways:

- They can contribute their expertise, resources, and contacts.
- They can help share the workload, especially in specialized tasks that fall within their particular realm of responsibility and interest.
- They can help us reach more people, especially non-traditional and hard to reach audiences, just by using their own contacts.
- They can help legitimize a program effort and thus make the press, the public, and the politicians sit up and take notice -- if only because so many agencies and groups are cooperating together on a major program.

The only way we can make a difference is through strong, local involvement with specific groups of clientele and by forming new coalitions with other agencies, organizations, and government units. We need local involvement by both professionals and volunteers.

We could use some research into how we can use our existing cooperators in new ways -- and into effective ways of building new coalitions to meet the needs of specific audiences and address specific problem areas.

6. Have We Changed Our Image?

I heard a story that reminded me once again of the importance of good public relations. Moses was standing with his PR man on the bank of the Red Sea. He asked the PR man what he thought about his idea to part the Red Sea and drown the Pharoah's men as they were chasing the Israelites.

"Great!" the PR Man replied. "If you can do it -- I can get you five pages in the Old Testament!"

There is a perception among the public nationally that Extension programs are the same today as they were in the early days of Extension -- focused on a dwindling population of farmers and rural homemakers and no longer necessary in the rapidly changing society we live in today.

I think it's obvious to all of us that the image of Cooperative Extension today -- when there is an image at all -- is as out of date as the image of Ozzie and Harriet as the typical American family.

The question is -- "What do we want to be visible for? What do we want our image to be? How can we change our image to one that's dynamic and progressive. How do we accomplish greater visibility?

As society grows in complexity, the need for a public agency or institution like UW-Extension to communicate with its publics becomes more crucial than ever before. It's often assumed that if someone produces a better mousetrap, the public will beat a path to that's person's door. This rarely happens. Even if the agency or institution delivers a high quality program or service, it is still necessary to communicate its message -- to the public and to those who provide its resources.

I believe that Extension can build a single unified image based on three basic concepts -- just like the three sides of a pyramid. We want to let people know that our program is credible, relevant, and effective -- that we're making an impact.

Political decision-makers are nervous about big bureaucracies like Extension, and the ability of such systems to change in response to urgent social, economic, and environmental needs. We know we have changed. We know our programs are making an impact on modern problems. We know that today's Extension home economist is not spending her time judging pie crusts and quilts at the Fair.

Our challenge is to make others aware of these facts. We have to stop apologizing for being Extension faculty. We have to be pround ofwhat we do. We must demonstrate the relevance and impact of our programs at every possible opportunity -- not only to decision-makers, but also to the many target audiences who are not traditional Extension clientele.

We need research into the factors that create a favorable or unfavorable image of Extension. What causes decision-makers to be impressed and allocate more resources ot our programs? What kind of image influences different target audiences to participate in our programs? Creating a new image of Extension will require careful planning and a well thought out strategy, along with demonstrated results. It's time we turned this situation around.

IV. CONCLUSION

In closing, I would like to comment on the last, and perhaps most difficult, challenge that Cooperative Extension faces as society moves to the 21st century. It's not criticism. It's not budget cuts. I believe our most pressing problem is how to prevent Extension from becoming so inflexible, so cautious, so lacking in vision, that we're no longer criticized, but simply ignored.

The greatest challenge for Extension is change itself and the responsiveness of our program to meet the changing needs of our society.

Extension can play a powerful role in helping people meet rapid change head-on -- and to get ahead of it if they can. We can be key players in helping local, state, national -- and even international -- units of government meet change with new, creative, positive solutions through our role in public policy development.

We in Extension have an opportunity to become even more potent leaders in the communities we serve. The system is already in place and it has endured for 75 years. The linkages and resources and partnerships are available.

So, what is necesary to put the future into action? The answer is in ourselves.

- o Do we have the capacity, the vision, and the commitment to articulate clear directions for yourselves and your programs?
- o Do we have the energy and confidence to take risks, attack controversial issues, be creative and responsive to the changing needs of our clientele?
- o Do we have what it takes to make the tough calls on staffing, technology, priority setting, and program quality?
- o Are we prepared to broaden the discipline base, become more accountable, reach out to new clientele, develop new linkages and become more politically adept?

Finally, are we prepared to do what you've been doing with me for the past twenty-five minutes -- namely listening. And listening actively?

I think we can say "yes" to all these challenges. But only if we can say 'yes' to change.

We'll need lots of new research into the variety of possible structures, staffing arrangements, coalitions, images, and delivery methods to adequately respond to rapid change.

It's a rare kind of profession we have -- a rare opportunity to provide leadership without having to go through an election campaign. An opportunity to make a real difference.

It's a rare type of power and influence, if only we can take advantage of it.

Let's do it.

SESSION A

May 17, 1989

ASSESSING NEEDS FOR ORGANIZATIONAL DEVELOPMENT, STAFF DEVELOPMENT, AND MANAGEMENT DURING PERIODS OF ORGANIZATIONAL AND ENROLLMENT DECLINE IN A NOT-FOR-PROFIT NONFORMAL EDUCATIONAL SYSTEM

by

GLENN J. APPLEBEE

THE CHARACTER OF THE OHIO COOPERATIVE EXTENSION SERVICE AS DEFINED BY THE 1987 STRATEGIC/LONG RANGE PLANNING TASK FORCE DATA COLLECTION PROCESS

by

THOMAS ARCHER

MAJOR ROLES OF AGRICULTURAL EXTENSION AGENTS IN THE AGRICULTURAL TECHNOLOGY DELIVERY SYSTEM IN THE YEAR 2000

by

STEVEN C. BONANNO, LAYLE D. LAWRENCE,
STACY A. GARTIN, AND KERRY S. ODELL

ASSESSING NEEDS FOR ORGANIZATIONAL DEVELOPMENT, STAFF DEVELOPMENT AND MANAGEMENT DURING PERIODS OF ORGANIZATIONAL AND ENROLLMENT DECLINE IN A NOT-FOR-PROFIT, NONFORMAL EDUCATIONAL SYSTEM.

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INTRODUCTION

As educational institutions undergo changes which are beyond their own individual control, studies have been conducted to determine management strategies and to describe specific academic situations. Management of declining resources and enrollments has been the focus of much research in this country during the 1970s and 80s. Management of decline by conducting and directing carefully what happens in an organization or system during periods of declining enrollments and resource allocations has been a research topic in Europe for many years in all fields of management. In the United States, however, research on management of decline has been primarily concentrated in institutions of higher education, colleges and universities. The focus of research in colleges and universities and, more recently, in secondary and elementary education has been on the function of demographic changes and accompanying financial and other resource distress. Changing population patterns and other economic stresses have proven a management challenge for educational institutions attempting to manage declining enrollments through closing facilities, adjusting faculty positions, and changing administrative configurations. There has been little research on management of decline in not-for-profit educational systems such as Cooperative Extension. Research on management of decline is important because when organizations continue with management practices based upon traditional growth and expansion their survival as organizations is in jeopardy.

Cornell Cooperative Extension in New York State shares in the nationwide mission of the Extension System. In New York State there is a cooperative extension association in each of the fifty seven counties and programs in each of the five boroughs of New York City. Extension programming in New York State is carried out by more than four hundred professional staff working in the counties and boroughs supplemented by a large number of paraprofessional and support staff, more than two hundred university faculty and forty thousand volunteers.

Public educational organizations are influenced by social factors such as demographic changes and societal needs and, therefore, program needs. Human resources available to conduct educational programming and to participate in educational programming are less obtainable than in fairly recent past history.

In recent years the Cooperative Extension system nationwide in the United States has been experiencing changes relating to numerous factors influencing all aspects of society. Some state extension systems have implemented policies and procedures relating to reduction, consolidation or discontinuation of extension programs. These policies and procedures are necessitated by a reallocation of resources due to changing educational priorities as well as other societal or organizational indicators. The problem is a need for research based information to provide a foundation for management decision making in not-for-profit educational organizations in times of change.

This was a study of some of the effects of societal, organizational and programmatic changes on the Cornell Cooperative Extension System. Determination of changes in human resource allocations, system wide program enrollments, program offerings, communication strategies, enrollment management strategies and some values of professional staff resulted in recommendations for management strategies for extension systems and other not-for-profit nonformal educational organizations. The effective and efficient management of human resources, program offerings, and communication strategies will help planners and implementors of not-for-profit nonformal educational systems maximize program enrollments and program quality.

PURPOSE AND OBJECTIVES

The purpose of this study was to obtain information related to educational theories of enrollment and organizational decline from an example of a large not-for-profit nonformal educational system to develop recommendations useful in addressing decline with other than financial resources.

To accomplish the stated purpose of this study the following objectives were established:

1. To determine the opinions and attitudes of management staff about appropriate program content, audiences, purposes and activities through a survey including written and interview methods.
2. To determine relationships among program enrollments, communication strategies, program offerings, human resource allocations, values of staff, program slack, flexibility, variety and quality factors within and between county types.
3. To determine relationships between enrollment and program management in the Cornell Cooperative Extension system and educational program and enrollment management theories and current practices.
4. To determine the degree of acceptance of recommendations emanating from the study by management staff within the Cornell Cooperative Extension System through a modified Delphi technique.
5. To produce recommendations useful in determining strategies for maximizing program enrollments and levels of participation and support in not-for-profit nonformal educational organizations through a study of the Cornell Cooperative Extension system.

This was a nonexperimental/descriptive study and research questions were defined generally from the objectives. The stated purpose of the study is addressed from a practical perspective. The methods and areas of focus of the study were selected to help improve management practices and facilitate application to other systems. To accomplish the objectives of the study, the following research questions were established:

1. What are the opinions of system management staff as to who are appropriate program clientele for Cornell Cooperative Extension?
2. What are perceptions of primary educational program purposes, content and activities among those involved in this study?
3. What are the perceived levels of program depth, quality, slack, flexibility, balance and variety?
4. Are current or proposed changes in communication strategies, values of staff and management strategies used by staff related to educational theories and current practices to manage program enrollments?
5. What is the actual program enrollment status within county Cooperative Extension Associations and what are the perceptions of system management staff as to what is the program enrollment status of the system?
6. What are county association program, staff, enrollment management strategies and adjustments in program made to change or manage enrollments as perceived by management staff?
7. What is the degree of acceptance of preliminary recommendations by those involved in the modified Delphi portion of the study?

PROCEDURES

The study population was limited to County Coordinators and Program Leaders who are professional management staff of Cornell Cooperative Extension Associations throughout New York State and to on campus Cornell Cooperative Extension Administrators. Paraprofessional, support and volunteer staff were considered beyond the scope of the study.

A decision was made not to include data from the five boroughs of New York City. The city was excluded from the study due to extreme differences in population and extension staffing patterns between the boroughs of the city and all other New York State counties.

This three part study consisted of collecting and analyzing existing data to determine groupings for different counties which provided a basis for analysis. Enrollment and staffing data were collected and analyzed for each grouping.

The first part of the study consisted of collecting and analyzing data available primarily from the 1980 census records. The demographic data helped to determine groupings for different counties which provided the basis for analyzing other data. Extension program enrollment data (1982 through 1986) available from extension records, were also collected and analyzed for this part of the study. Data were incorporated from enrollment in extension agricultural and natural resource programs, human ecology programs, and 4H youth development programs to determine enrollment changes. In addition, data on professional staffing levels over the same time period were incorporated.

In the second part of the study two instruments were developed for data collection from study participants. The first was a written response questionnaire including opinion questions and values or attitude statements. Based on previous research, attitudes of management staff reflected by their values and opinions provided for a measure of the values implicit in the program offerings of the system.

Written instruments were coded as they arrived. Interview questionnaires were coded after each interview was completed. The data were entered into computer program files and were prepared in the format for the Statistical Package for the Social Sciences program (SPSSx) and the Statistical Analysis System (SAS).

In the questionnaire a number of questions were designed for the participant to rank the importance of response items listed. The ranking items were ordered "1" as most important and the higher numbers as less important to the least important highest numbered item.

A scale was used for several items assigning a "0" to "5" to each of the terms to be rated. In these items, "5" is considered a high importance level and "0" a low or no importance level.

Another group of responses identified choices of a most appropriate item.

Means and percentages were computed on those responses which were rated or ranked. Means were used to judge the importance of all items to participants in the study.

Analysis of variance was calculated to ascertain if there were any significant differences in importance attached to items by the different defined county types. The participants rated or ranked their selections, so defined area mean ratings, a mean for participants, and analysis of variance were calculated. One way analysis of variance (ANOVA) was used to determine relationships between county types on several variables related to management strategies, enrollments, resource allocations and quality program factors. Analysis of variance also was used to determine relationships between the profiles of the county programs, the enrollment and resource management strategies, values, communication strategies and program characteristics.

Exploratory factor analysis was used to determine interactions between variables related to enrollment, communications, program content and purposes, values of staff and enrollment management strategies.

Chi square tests were conducted on several variables related to enrollments and opinions of staff on management of enrollments in order to attempt a partial description of the distribution of responses between county types. Analysis was continued to determine causes, consequences and relationships, taking care not to mechanically link together variables out of context. Data were also checked for consistency through comparisons of source of different data within the same method and between the different methods used.

To ascertain the level of agreement between participants in the study in different defined county types, analysis of variance and chi square tests were conducted. Correlations provided insight as to the amount of agreement of participants regarding the importance of identified elements in the study. The level of agreement on elements of the study lead to recommendations for action related to administrative policy and management in current programming environments.

The second instrument was a standardized interview form including a set of carefully arranged and worded questions. The intent of the design was to take all participants through the same sequence of questioning thereby minimizing the variation in the questions posed. Comments were recorded which were beyond the scope of the questions posed and provided a significant amount of additional qualitative data.

In the third part of the study a modified Delphi technique was applied to the recommendations from the study to ascertain the level of agreement of the leaders of the system with the recommendations. A panel of six professional managers in Cornell Cooperative Extension were asked to modify and express their level of agreement with recommendations from the study. The six individuals were considered representative of experts on the New York State Cornell Cooperative Extension System and viewed as competent to make judgements about recommendations for the system emanating from the study.

The Delphi instruments were reviewed as they arrived from the panel members. The percent of responses in each category were calculated and reported with each successive iteration. Results from round one were summarized and were shared in the round two instruments by listing percentages of those who agreed or disagreed with each item. Comments made were also shared in the round two instrument. Recommendations were then rephrased and round two response to the new recommendation was solicited. Those recommendations on which there was 100 percent agreement in the previous round were not included in the next round as no further reevaluation was needed.

Round three was considered the final round.

RESULTS

The results reported are based upon data from extension program records, data collected from 114 program managers in Cornell Cooperative Extension County Associations, and results of a modified Delphi technique.

Table 1 shows the percent changes within the county typologies in staffing and enrollments during the four year period 1982 through 1986.

TABLE 1. STAFFING AND ENROLLMENT CHANGES IN CORNELL COOPERATIVE EXTENSION ASSOCIATIONS 1982 - 1986 WITHIN COUNTY TYPOLOGIES N-57

County Typology	Mean Enrollment Change 1982-1986	Mean Staffing Change 1982-1986
I	03.0%	-21.0%
II	-31.0%	03.0%
III	-16.0%	-03.0%
IV	-12.0%	-07.0%
V	-11.0%	03.0%
VI	-39.0%	-11.0%
Ovrll mean	-17.7%	-06.0%

Data in Table 2 summarize the research instruments mailed and returned by each sample group for PART II of the study. Of the 115 instruments mailed, 113 or 97.9 percent were returned. Interviews were conducted with 114 or 98.9 percent of the sample group.

TABLE 2. NUMBER AND PERCENT OF INSTRUMENTS MAILED AND RETURNED AND INTERVIEWS CONDUCTED BY COUNTY TYPE N-115

Co Type	Sample	Insts Mailed	Usble Insts Ret'd	%Usble Insts Ret'd	Intvw Cond	%Usble Intvw Data
I	15	15	13	86.7	14	93.3
II	20	20	20	100.0	20	100.0
III	20	20	20	100.0	20	100.0
IV	20	20	20	100.0	20	100.0
V	20	20	20	100.0	20	100.0
VI	20	20	20	100.0	20	100.0
Totals	115	115	113	97.9	114	98.9

In the case of the Delphi on the recommendations, all of the returned instruments were usable. All of the panel members responded. There were seven remaining recommendations in the final round from the original 13 included in this part of the study. The findings from the modified Delphi are presented as the recommendations of the study.

Various combinations of staffing and enrollment growth, stability or decline exist within county group types. Overall the Cornell Cooperative Extension system is experiencing decline in enrollments and in numbers of professional staff. In some specific county types instances of decline are dramatic. In no cases was the system found to be in a growth pattern.

The majority of professional managers in Cornell Cooperative Extension have a relatively long tenure as cooperative extension professionals. Just over half of these professional managers have degrees beyond the bachelors, suggesting a need for opportunities for professional managers to obtain relevant advanced degrees.

There are contrasts between what is reported enrollment in official records and the perceptions of professional managers as to the enrollment status of their programs. Field managers may have enrollment information not reported system wide causing discrepancy in reported enrollments or may have inaccurate perceptions of the enrollment status within their association. Based on the information obtained from official records and extensive required reporting, the system for reporting, recording and retrieving enrollment information is judged to be at least adequate. Based on the data collected and analyzed for this study, the conclusion is that the perceptions of field staff in the system are optimistic when it comes to enrollment in programs. The perceptions of the importance of managing enrollments vary widely from very important to not at all important.

There are significant differences between county typologies on some variables impacting on enrollment levels. There are different reasons for decline and different types of audiences for program depending on the county group type. There is evidence that county type does make a difference when considering strategies, causes and effects. The programs in the more urban counties are likely to be perceived by management staff as more indepth, balanced, diverse and specialized in methods and content than those in more rural counties. The reasons for decline in the system are more closely linked to the decline in the farm family in the more rural counties. The differing reasons for decline and the differing types of audiences lead to the conclusion that counties working with similar issues should be grouped together administratively for managerial efficiency and effectiveness.

Problems in obtaining local funding and staffing are the paramount problems staff anticipate and experience when considering program enrollment levels. There are perceived relationships between enrollment levels and reaction of local communities to the educational system. Emphasis and attention of program managers is primarily on local concern. Relationships and concern about program issues and organization preservation and management become rapidly weaker as one moves through the system from local to national levels. For example, excess staffing as a problem is rated low both in anticipation and experience which indicates that when enrollment drops local funding drops and therefore staffing levels drop. Staffing levels which are fluid with enrollment levels may indicate the absence of job guarantees, tenure track systems, reasonable job expectations, motivators or perhaps, appropriate competencies of professional staff.

There is little change in program content or strategies to make people aware of the program, therefore, there is little change in enrollee characteristics. There is however, a high degree of optimism about future changes in enrollments in that there is expectation for stability and growth, providing contrast to what is happening in enrollments. This leads to the conclusion that more than optimism is necessary and adjustments in program content and strategies will be necessary to change the characteristic makeup of the population of enrollees. The optimism on the part of management staff is a very positive aspect in setting the stage for change.

Considering the stratification of audiences by age, youth ages 9-19 are a primary audience for program. The other audience of primary focus and concern is adults over 36. This bimodal primary audience distribution indicates opportunity for growth in the system while at the same time providing demographic reason for decline. The youth group is in greatest decline demographically and the group over 36 is the largest available audience group. There were no significant differences between county types on these items, therefore there is a system wide homogeneity of level of importance on the youth 9-19 audience and adults 36 and over audience.

Without exception the highest rated strategy or solution cited for addressing problems or attempting to deal with situations is conducting new or planning new programs. The solution cited least often and the clear last choice is dropping ineffective or inefficient programs. Staff may not like to or not know how to discontinue programs which may not be efficient or effective.

There is a lack of clarity of what is the policy of the organization in relation to enrollment, limiting policies, costs of programs, the relationship of enrollment to program quality and acceptable strategies for managing enrollments.

Educational experience in the extension system for enrollees is perceived as moderately indepth. There is room for a greater level of depth in Extension's educational programs.

There is a high level of experimentation with program innovation locally which may be related to the positive image the program has in the community. This may also point to the difficulties respondents to the survey expressed with over scheduling, doing too much and an excess diversity in programs. There may be an excess of experimentation indicating a scattered approach to programming, based on the availability of funds or diverse local demands, without obtaining good data to indicate new initiatives are wanted or needed.

Staff competency is viewed as the most important factor of quality program. The overall program is viewed as balanced and varied in the number of delivery methods and specific programs delivered. Diversity is rated highly and, in fact, causes managers to be concerned that programs have become too diverse, impacting on quality of program and increasing stress on staff due to the latter's inability to focus program efforts. Staff also view staff time available to them as either very flexible or not flexible. There is lack of clarity about the degree of flexibility in staff time in the system.

Meetings and other traditional program strategies are relied upon for program implementation. Reasonable predictions can be made about the potential results from the use of these strategies because these have been traditional approaches. Current trends in enrollments are likely to continue if the traditional strategies are to be relied upon. New strategies based on sound needs assessment data are needed to facilitate change in the system.

Consistently, whether it be communication with clientele, communication with the community, the community accessing, the community becoming aware of extension, or use as a program delivery method, newsletters are the number one vehicle and the telephone the second. When considering how the system does business these two communication methods need major consideration. They also provide a basis for concluding that the system is best at talking with itself and those who are staff or enrollees in the system. To expect more people who are not currently enrolled to become involved, strategies for recruiting enrollees which differ from newsletter and telephone are important.

Publicity is often cited as the strategy attempted when enrollments decline. A result of publicity is cited as stable or increasing enrollments. Indications are that there is a need for help in how to conduct publicity efforts.

CONCLUSIONS

Currently, this system may be labeled a generalist organization. Remaining a predominantly generalist organization with high degrees of flexibility, quality, variety, diversity and balance may be a factor in the longevity and resiliency of the organization in line with the results of other research on management of decline in education. Theories described previously in this study indicate that the generalist organization has a broader based fit with societal issues and can adjust well to changing societal needs. The specialist organization or system is more volatile in regard to stability and has a very narrow range of fit with the needs of society. There is also much discussion within educational theories about the degree of flexibility and variety in an educational system related to the ability of that system to cope with adversity in the programming environment. In some instances the extension system has done well due to its flexibility. The flexibility in the system is being taxed to its limits and decreasing due to staffing changes, program demands and many factors described in the findings of this study. The conclusion is that adjustments need to be made in flexibility and diversity in order to preserve the qualities of the system which have been proven to be strengths in the past.

Communities are most interested in maintaining educational program quality. Enrollments are also an important consideration when community interest is important. Communities support, and in some instances, demand program quality and increases in program enrollment. Communities are not likely to turn against the organization with demands for cutback in quality or cutbacks in support or even provide no reaction to program. However, there is awareness on the part of program managers that there is potential for the community to react with apathy or non participation and non enrollment if program management strategies are not the right ones. Educational theories are related to this conclusion in that the community which is involved in the decision making processes of the system is willing to support the system. There is a high level of congruency of the projected values and programs of the system with the values and perceived needs of those involved in the decision making processes at the local level.

The typical enrollee described by the program managers in the Cornell Cooperative Extension system is a 36 year old white female who is middle income and enrolled in home economics type programs and reached most frequently through media delivery methods such as newsletters. The typical enrollee managers have in mind lead to suggestions about available audiences and potential enrollment in program. Those expected to be reached often are those reached because of program and design projecting values of interest to that particular audience. Those already in the system are most aware of program enrollment and benefits. The theories of participation in education indicate that those who participate are most likely those who see their needs being met at the level they desire to have them met. Those who do not view the system as one which meets their needs at their desired level will not participate or support the system.

Program managers in Cornell Cooperative Extension County Associations do not feel that extension administration staff at Cornell place priority on concern about program enrollment levels. In an enrollment driven public educational program concern for enrollment is significant. In management theories indications are that attention to the enrollment management approaches in the system are important and that a serious focus on potential enrollees based on sound evaluative information is significant for the survival of the system.

Programs are designed to serve a relatively high level of audience need. Those requiring programs to serve some basic needs are apparently being overlooked and this factor is impacting on enrollment levels. A majority of enrollees are characterized as being above average achievers which indicates that they are seeking out educational information --- which raises questions about those not seeking educational information as an audience. Educational theories often include reference to Maslow's hierarchy of needs. If the level of needs of the potential clientele and the proposed educational program do not match, the potential clientele will not participate. When a majority of potential enrollees have needs which are at the level of survival and the system designs and offers programs at the self actualization level it can be predicted that enrollment will be at a low level.

There is a high degree of congruency in the values regarding extension programs among the professional management staff in the county Cornell Cooperative Extension system. The high level of congruency has implications for program development and curriculum design and program participation and enrollment. The congruency of the values of those staffing the system is high therefore there is a probability that the congruency with the values of the local lay decision makers is also high. With this high a degree of congruency in the system, it is likely that the projected values are highly congruent with those of the majority of enrollees (recall white, middle class, 36, newsletter reader). Therefore, a change in the projected values of the system is necessary in order to adjust/modify the level of enrollment and support.

The preliminary recommendations developed for the modified Delphi were accepted to a high degree. The recommendations were rephrased through three iterations based on the suggestions of the panel without losing the intent of the recommendation or the basis in this research. Alternative positions related to the recommendations were developed from comments of the panel and suggest some alternatives to the approaches proposed in the recommendations. A review of literature related to this topic will indicate that public educational organizations lack the profit based market indicators which quickly determine the health of the system. One of the only indicators the public educational organization has is enrollment for which, the literature states, many excuses can be made. It is interesting that the enrollment recommendation is one of the four recommendations which did not receive complete agreement by the panel. Another interesting observation is the tendency reflected in the feedback to the modified Delphi to resist suggestions for focus and targeting. There is apparent in alternative positions a desire to remain widely available to whatever audiences might have needs which may be addressed by the system. This trend indicates resistance inherent in the system to lessen the diversity of program efforts.

RECOMMENDATIONS

1. The term enrollee in the educational system should be defined as someone who may contribute to the growth and direction of the system and become committed to the goals of the system.

2. The importance of managing enrollments needs to be communicated throughout the system as one indicator of program quality and as a basic necessity for the continuation and stability of the educational system.

3. The educational system needs to communicate curriculum expectations which match closely with needs of potential enrollees in order to maximize participation.

4. Lines and methods of effective communication need to be identified and improved between all parts of the educational system.

5. The educational system should focus on specific audiences and appropriate delivery methods to reach those audiences.

6. A systemwide strategy should be implemented to clearly communicate excellence to potential enrollees and to enhance the ability of the system to reach target audiences.

7. Age categories are criteria for audience segmentation and the system should continue to use this criterion effectively.

8. Significant staff development efforts need to be undertaken to help staff learn how to design a strategy to discontinue ineffective, inefficient or out dated program efforts.

9. A balance needs to be maintained between generalist and specialist staffing within the educational system.

10. Staff need support to be able to conduct program innovations from other than the local level.

11. Strategies are needed to change recruitment and staff development programs in order to attract and train staff with attitudes conducive to positive and proactive educational program development for potential enrollees with the greatest educational needs.

12. Staff development efforts should be undertaken to maximize most effective communication strategies.

13. Some form of job security options such as tenure, job motivators, flexible employment arrangements or other rewards should be considered by the system in order to attract and retain highly qualified staff.

14. Using other than geographic proximity as a criterion, changes in administrative alignments and liaisons should be made within the system to group together program units.

15. Further research to determine the structure of the system as a membership or enrollment system is important.

BIBLIOGRAPHY

Dembowski, Frederick L., Gay, Geneva, Owens, Jeffery, "The Effects of Declining Enrollments on the Instructional Programs of Public Elementary and Secondary Schools", American Educational Research Association Paper, Boston, Massachusetts, April, 1980.

Duttweiler, Michael W., Intraorganizational Differences in Program Quality Definitions and Evaluative Information Needs in A Nonformal Educational Program, Unpublished Doctoral Thesis, Cornell University, 1985.

Eberts, Paul R., Socioeconomic Trends in Rural New York State: Toward the 21st Century, New York State Legislative Commission on Rural Resources, Albany, New York, 1984.

Levine, Charles H., Managing Fiscal Stress. The Crisis in the Public Sector, Chatham Publishers, Chatham, N.J., 1980.

Levine, Charles H., "More on Cutback Management: Hard Questions for Hard Times", Public Administration Review, American Society for Public Administration, 1225 Connecticut Ave., N.W., Washington D.C., 1979.

Levine, Charles H., "Organizational Decline and Cutback Management", Public Administration Review, The American Society for Public Administration, Washington D.C., 38, 1978.

MacMillan, Thomas F., "The Change Project at Mendocino College, Achieving Consensus in Curriculum Goals for an Integrated Liberal Arts Curriculum", Seattle, Washington, ERIC ED113002, 1975.

Miller, Harry, Education for the Disadvantaged; Current Issues and Research, New York Free Press, 1967.

Miller, Harry L., Participation of Adults In Education: A Force-Field Analysis, Center for the Study of Liberal Education for Adults, Boston University, Brookline, Mass., ERIC ED011996, 1967.

Miller, Harry, Teaching and Learning in Adult Education, MacMillan, New York, 1964.

Rubin, Irene, "Universities in Stress: Decision Making Under Conditions of Reduced Resources", Social Sciences Quarterly, Volume 58, no. 2, September, 1977.

Sargent, Cyril, Handy, Judith, "Fewer Pupils/Surplus Space: The Problem of School Shrinkage", Educational Facilities Lab, New York, 1974, Phi Delta Kappan, 56, no. 5, January, 1975.

Scherer, Clifford, "Audiences and Clientele: How Will They Differ in the Future?", Cornell University Rural Communication Research Program, Paper presented at the Extension Executive Seminar, Perspectives for the Future, Washington D.C., September, 1985.

Sutphin, H. Dean, Positions Held by Teachers, Teacher Educators and State Supervisors About Selected National Issues in Agricultural Education, Columbus, Ohio, unpublished Ph.D. dissertation, 1981.

Sweigert, Ray L., "Educational Goals: How Much Agreement Can We Get On Which Ones Are Important?", Atlanta Ga., ERIC ED111101, 1975.

Zammuto, Raymond F. "Organizational Correlates of Decline: Some Preliminary Analyses", ASHE Annual Meeting Paper, National Institute of Education, Washington D.C., ERIC AN ED219055, 1982.

ASSESSING NEEDS FOR ORGANIZATIONAL DEVELOPMENT, STAFF DEVELOPMENT AND MANAGEMENT DURING PERIODS OF ORGANIZATIONAL AND ENROLLMENT DECLINE IN A NOT-FOR-PROFIT, NON FORMAL EDUCATIONAL SYSTEM

Glen G. Applebee -- Author

Jeffrey W. Moss - Louisiana State University -- Discussant

The importance of this research topic to the Cooperative Extension Service in New York State and to the rest of us across the nation has been aptly described by the author in the following statement. "Research on management of decline is important because when organizations continue with management practices based upon traditional growth and expansion (which is no longer occurring) their survival as organizations is in jeopardy." During the past 75 years the Cooperative Extension Service has effectively coped with changes in resource availability and demand for services. To remain a viable organization for the next 75 years will require even greater attention to assessing the needs for organizational and staff development. The author is to be commended for selecting a topic of significant importance to all of Cooperative Extension now as well as in the future.

The introduction to this paper is especially well written as it provides a general description of research efforts concerned with management strategies in periods of decline. Though relatively little research on management of decline in the Cooperative Extension Service has been conducted, numerous studies in Europe and of other institutions have been completed. This knowledge base can be most useful when planning studies of the Cooperative Extension Service. The only suggestion I might offer for improvement of the introduction would be to include some of the findings and conclusion of research of other institutions undergoing declines. The references by Levine in the bibliography look especially interesting.

The purpose and objectives of the study were written very broadly and the use of research questions adequately narrowed the topics of investigation for easier understanding by the reader. The procedures used to collect and analyze the data for this three part study were, for the most part, adequately explained. However, I do have some questions regarding the research methodology. Were the 115 study participants the population of your study or a sample of a population? If it is a sample, what was the population frame and method of sampling used in the study? The use of inferential statistics in the data analysis suggests that sampling was used but incomplete information is provided in the paper to make this determination. Two instruments were developed to collect the data for the second part of the study. What measures were undertaken to assure the validity and reliability of the instruments? Were the instruments field tested and is information available on the reliability of the scales which measure perceived importance?

The reported analysis of the data for this study included analysis of variance, factor analysis, chi-square, and correlation yet no where in the paper is any data presented where these statistical treatment were used. It would be helpful to more adequately present the data collected in the study so that the reader can see the basis for your conclusions. One final question regarding your data analysis concerns your use of analysis of variance. In two parts of your study it was stated that ANOVA was used to determine relationships. Wasn´t ANOVA used to test differences in the groups instead of measuring relationships?

The results of staffing, enrollment and response rates for the mailed questionnaire were stratified by county typology. It would be particularly helpful to know in the paper the characteristics of a county classified as typology I, II or III, etc. Having that information might shed some light on why the only county type with a positive enrollment change had the greatest staffing cut between 1982-86.

The response rate for the mailed questionnaire and interviews is excellent. You are to be commended for the follow-up procedures that were used to collect the data. Using the delphi technique to obtain consensus of opinion from the six professional managers of the Cornell Cooperative Extension System was also a positive factor in the study design.

The results and conclusions of the study have been summarized by the author and the data collected through the mailed questionnaire is not presented. Including more data would significantly improve the reader´s ability to understand the results and basis for conclusions. Given the parameters for preparing the paper this could have been accomplished by narrowing the scope of the results reported.

The fifteen recommendations appear appropriate though not all are supported by the findings presented in this paper. I´m sure they are included in the full report of the study. In summary, I commend the author for selecting a significant topic for inquiry and conducting a very thorough investigation.

THE CHARACTER OF THE OHIO COOPERATIVE EXTENSION SERVICE AS DEFINED BY THE 1987 STRATEGIC/ LONG RANGE PLANNING TASK FORCE DATA COLLECTION PROCESS

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INTRODUCTION

During the 1980's many governmental agencies have been forced to downsize as a result of funding cuts or level funding. The Ohio Cooperative Extension Service is no exception.

This paper is an attempt to make recommendations, based on Strategic Long Range Planning data, that will assist in "upgrading while downsizing". Knowing the strengths and weaknesses of such 'Character' of the organization is an intregal part of this developmental process.

PURPOSE AND OBJECTIVES

A variety of users and non-users of the Ohio Cooperative Extension Service were asked to: (1) Indicate their awareness of the Ohio Cooperative Extension Service; (2) Identify how frequently they utilized the services of the Ohio Cooperative Extension Service; and (3) Describe their attitude toward the Ohio Cooperative Extension Service. With this identification of these 'Character Qualities', recommendations were made that can assist in formulating future direction of the organization.

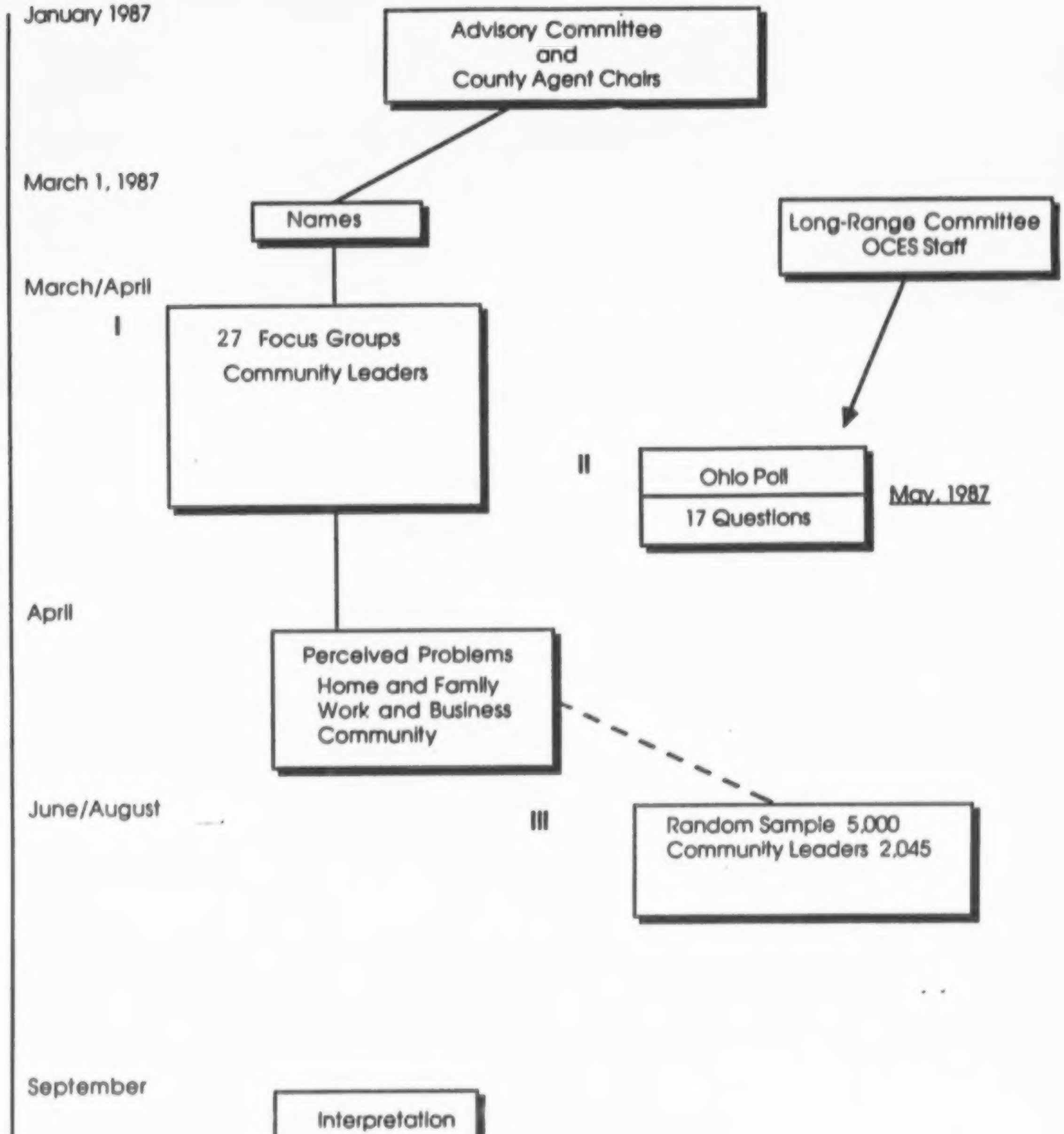
PROCEDURES

Design

This study is a combination of two types of descriptive survey research, telephone and mailed questionnaire, combined with the descriptive results of a series of qualitative focus group interviews [1].

Components and time line

The following diagram indicates the components and time line of the complete data collection process.


January 1987
Advisory Committee and County Agent Chairs
March 1, 1987
Names
Long-Range Committee OCES Staff
March/April
I
27 Focus Groups Community Leaders
II
Ohio Poll
17 Questions
May, 1987
April
Perceived Problems
Home and Family
Work and Business
Community
June/August
III
Random Sample 5,000
Community Leaders 2,045
September
Interpretation

I Focus Group Interviews - Qualitative
II Ohio Poll - Telephone Survey - Quantitative
III "People Listening to People" Mailed Survey - Quantitative

Population and Subject Selection

To collect information for the 1987 Long Range Planning effort of the Ohio Cooperative Extension Service (OCES), three processes were used: (1) A series of Focus Group Interviews in March-April, 1987; (2) Incorporation of questions on the May, 1987 state-wide random telephone interview through the Ohio Poll; and (3) A questionnaire survey mailed in July-August, 1987, to Ohio Community Leaders and a random sample of Ohio Residents.

Twenty-seven Focus Group Interviews (FGI's) were conducted with a total of 230 Ohio Community Leaders in attendance from seventy-two different Ohio counties. Each of Ohio's eighty-eight field offices of the Ohio Cooperative Extension Service was requested to submit a list of thirty names of community leaders, twenty of which were compiled by local Extension Advisory Committees, and ten submitted by the local Extension professionals. These people were considered to be, "broad minded, dedicated leaders of the community who were willing to work toward the improvement of the community". An effort was made to include names on these lists of as many "non-users" of Extension Service programs as possible.

The project staff devised a map of Ohio counties, stratified by population density, and grouped geographically similar populated counties accordingly. Every county was included in a grouping, or by itself, that belonged to the Rural (< 50,000), Rurban (>50,000 < 275,000), or Urban (>275,000) stratification. From these groupings, a random assignment was made so that there would be at least eight focus group interviews in each of these population stratifications. Additionally, stratifications were also made within the population stratifications that identified focus groups as "User" and "Non-User" groups. Six FGI's were conducted with Rural-Users; Five FGI's for Rural-Non-Users, and four each for Rurban-User, Rurban-Non User, Urban-User, and Urban-Non-User.

The Institute for Policy Research, University of Cincinnati [6] conducted the telephone interview portion of this study. Random digit dialing was employed to randomly select respondents, and other accepted telephone interview procedures were followed.

A list of 5000 random adults was purchased from a Columbus based commercial list firm which provided the potential respondents to the random portion of the mailed survey. Those community leaders who were not involved in a focus group interview composed the group of leaders to which the survey was mailed. There were 2045 potential respondents in this group.

Instrumentation

The questioning route for the Focus Group Interviews was developed by the project staff with the help of the Long Range Planning Task Force, as well as other professionals experienced with the FGI process [2]. Questions included where people sought help for problems encountered, what types of concerns discussants had with work, community, and family, as well as perceptions about the Ohio Cooperative Extension Service as an information source.

Questions that were incorporated into the Ohio Poll were developed by the project staff and representatives of the Long Range Planning Task Force. These included questions on a person's awareness of the Ohio Cooperative Extension Service.

The mailed questionnaire was called, "People Listening to People". It was developed according to accepted procedures of mailed questionnaire design [4]. Content and final form was developed by the project staff with input from the Assistant Directors of the Ohio Cooperative Extension Service, as well as representatives of the Long Range Planning Task Force. Among other things, this questionnaire sought to determine the familiarity and use of, and attitudes toward, the Ohio Cooperative Extension Service.

Data Collection

Focus Group Interviews were held between March 2 and May 7, 1987. Two hundred thirty (230) leaders from seventy-two (72) different counties were included. The Ohio Poll Survey was completed between April 23 and May 9, 1987 with eight hundred eighteen (818) respondents. The first mailing of the mailed instrument was made on July 20, 1987, with one follow-up mailing on August 6. Two thousand twenty-three (2023) usable mailed instruments were accepted for tabulation through September 1, 1987. Final response rates were Leaders - 54.3% and Random - 16.1%. An abbreviated telephone follow-up survey interview of non-respondents to the mailed questionnaire was completed with one hundred five (105) people [5]. This follow-up documented that the non-respondents were no different from the respondents of this portion of the study.

Data Analysis

The Analyst, Long Range Planning, compiled preliminary reports of Moderators/ Assistant Moderators [3], using accepted procedures of qualitative data analysis [2]. Descriptive statistics such as frequencies, percentages, and measures of central tendencies were used to organize the data from the Ohio Poll, the data from the "People Listening to People" mailed questionnaire, and the phone follow-up of the non-respondents to the mailed questionnaire.

RESULTS

The findings have been organized by objective:

I. Objective One - Awareness of the Ohio Cooperative Extension Service as an information source: (From Focus Group Interviews)

1. The Ohio Cooperative Extension Service has an overall positive image held by those who know it.

> "I think it is an excellent source. I have never asked anything that they either do not have the information or they could not help you find it." (Rural User Group interview)

> "I see one of the primary functions of the agents as being communicators. They are able to communicate and bring together people in a meaningful way, and put together a program so that they can foster cooperation, exchange of information, and bring experts in to talk about these things." (Rurban User Group interview)

> "I can rely on them. I know the information is based on scientific research and is documented. They can refer me to a whole host of subjects." (Urban User Group interview)

2. Users of the Ohio Cooperative Extension Service in rural counties are not concerned about the Extension Service's visibility.

3. The higher the county population density, the more concerned discussants were about visibility.

> "Urban people just don't think of it [OCES]." (Rurban User Group interview)

> "I've been surprised at the number of programs of value that would be used if more people knew about them." (Urban User Group interview)

> "All of the community is not aware of the services provided by the Extension Service." (Urban Non-User Group interview)

4. There was a concern about the Ohio Cooperative Extension Service being "spread too thin".

> "Extension is trying to wear too many hats. Are they good at any of them? I think they are. You can spread yourself too thin, and I think Extension has reached that point, of trying to be all things to all people." (Rurban Non-User Group Interview)

> "I think our agents are doing an excellent job - they always have. And now they are spread too thin, each one of them is actually an agent in two different fields and it really is hard on them to get everything done with the budget [they have]." (Rural User Group Interview)

5. Programming concerns that were expressed were comments on how well the Extension staff relates to people rather than on subject matter competence.

Awareness of the Ohio Cooperative Extension Service:
(From Ohio Poll)

Table 1: Percent of Telephone Respondents Reacting to Various Degrees of Awareness of OCES.

79.0% ---->(	(Never heard of	40.8%
	(Heard of it, have never used services	38.2%
21.0% ---->(	(Participated in on-going group	8.9%
	(Read publications or news articles, or called for information	7.1%
	(Visited with personnel or attended programs	4.3%
	(Served on planning or advisory committee	0.7%

Heard of the Ohio Cooperative Extension Service:
(From Mailed Survey)

Table 2: Percent of Respondents who answered "YES" to whether they have ever heard of:

	Random	Leaders
Ohio Cooperative Extension Service:	86.5%	99.5%

II. Objective Two - Contact with the Ohio Cooperative Extension Service: (Mailed Survey)

Table 3: Percent of Respondents who answered "YES" to whether they have had contact with OCES:

	Random	Leaders
Contact with Agent or Office	45.0%	96.8%

Means of Contact with OCES:
(From Mailed Survey)

From those respondents who indicated that they had been in contact with an Ohio Cooperative Extension Service Agent or Office, a rating was requested on a frequency scale of how often they had contact through the following means. A nine point frequency scale was used with 0 = NEVER and 8 = OFTEN.

Table 4: How mail questionnaire respondents had contact with the Ohio Cooperative Extension Service. A nine point frequency scale was used with 0 = NEVER and 8 = OFTEN.

		Random	Leaders
1.	Personal Visit	2.7 (4)*	5.0 (5)*
2.	Phone	3.3 (3)	5.4 (1)
3.	Publications	3.9 (1)	5.4 (1)
4.	Visit Outside Office	1.3 (10)	3.6 (9)
5.	Radio Program	2.2 (7)	3.3 (10)
6.	TV Program	1.6 (9)	1.7 (11)
7.	Newspaper Article	3.9 (1)	5.3 (3)
8.	Educational Mtg. by Extension	2.4 (6)	5.1 (4)
9.	Mtg. Resources by Extension	2.0 (8)	4.7 (6)
10.	Recorded Telephone Service	1.0 (11)	1.1 (12)
11.	On-Going Group	2.5 (5)	4.4 (8)
12.	Advisory or Planning Group	0.6 (12)	4.5 (7)

*Indicates ranking

III. Objective Three - Attitudes toward the Ohio Cooperative Extension Service:

(Mailed Survey)

From statements that were gleaned from focus group respondents, a series of attitudinal statements, both positive and negative, were included in the mailed survey. Table 5 details the results. If one compares the relative rankings of the Leaders versus the Random respondents, it should be noted that they are almost identical.

The mid-point of a 0 to 8 point scale is 4. Items 1, 2, 4, 6, 10, and 12 are positive statements about the organization. Items 3, 5, 7, 8, 9, 11, and 13 are negative statements concerning OCES. All of the positive items scored on the "AGREEMENT" side of the scale by both the Leader and Random groups.

Five of the negative items scored on the "DISAGREEMENT" side of the scale by both the Leader and Random group respondents. These items were: The Ohio Cooperative Extension Service:

3 is over staffed.
5 should deal with farm problems only.
8 serves a limited number of people.
11 has programs which duplicate others.
13 should be eliminated in rural areas.

However, there were two negative statements which scored on the "AGREEMENT" side of the scale by both the Leader and Random group respondents: # 7 - The Ohio Cooperative Extension Service is "spread too thin"; and # 9 - The Ohio Cooperative Extension Service has funding difficulties.

Table 5: Mailed questionnaire respondents reactions to selected statements about the Ohio Cooperative Extension Service. A nine point Likert scale was used with 0 = STRONGLY DISAGREE to 8 = STRONGLY AGREE in response to the following items:

The Ohio Cooperative Extension Service:	Random	Leaders
1. is a valuable information source	6.5	7.0
2. is a highly visible organization	4.9	5.8
3. is over-staffed	2.3	2.1
4. offers programs needed in Ohio	6.3	6.7
5. should deal w/ farm problems only	1.5	2.0
6. has a positive image in Ohio	6.0	6.3
7. is "spread too thin"	4.3	4.8
8. serve a limited number of people	3.6	3.0
9. has funding difficulties	4.6	6.0
10. has a well qualified staff	5.9	6.7
11. has programs that duplicate others	3.2	3.0
12. should be retained in urban areas	5.3	5.4
13. should be eliminated rural areas	1.5	1.4

CONCLUSIONS AND/OR RECOMMENDATIONS

1. Somewhere between 2.4 and 4.9 million Ohio residents have 'realized' contact with an Ohio Cooperative Extension Service Agent or Office. Such extensive use of this governmental agency illustrates the high rate of return on the investment at the local and state funding. The Ohio Cooperative Extension Service should not lament at contact or awareness rates of less than majority, but rather promote the extent of contact which is 'realized'. That is, visibility is not as great a detriment to expanded Extension programming as some would believe. The data do not suggest that the Ohio Cooperative Extension Service has a visibility problem. OCES has a positive image in the vast majority of Ohio's counties, and needs improvement only in the most populated counties.

   One dimension which was not addressed in this study was the extent of use of Extension produced materials and programs that participants were unaware that Extension produced them. Efforts should be made to determine how many people use Ohio Cooperative Extension Service educational programs or materials and do not know it. This would no doubt increase the 'realized' contact.

2. Printed materials are the most often means of contact, regardless of familiarity with OCES. This implies that high quality, factual, reading material must be made readily available, and should be the highest of priorities in future program delivery.

3. "T.V." is almost the least used technological contact that people have with OCES. Perhaps it is too early for the use of educational broadcast T.V., satellite dishes, etc. for OCES educational programming. People still do not "turn on" the T.V. for education, but perhaps rather for entertainment. Therefore, large funding efforts dedicated to broadcast T.V. seem unproductive in the near future.

   If the Ohio Cooperative Extension Service decides to invest in satellite technology, the first phase of implementation should be "educating" consumers about the potential and value of TV. Potential clientele are not going to "tune in" Extension programming until they realize its worth. Once efforts are made to promote the use of video technology, the Ohio Cooperative Extension Service should then continue to monitor such technology to determine if and when it will become economically and educationally feasible to pursue on a larger scale.

4. Both the Random and Leader respondents to the mailed questionnaire thought that OCES was a highly visible, positive imaged, organization that offers programs needed in Ohio through a well qualified staff, and that the Extension Service is a source of valuable information that should be retained in urban areas.

   Likewise, both Random and Leader group respondents did not feel that OCES is over-staffed. Their attitude was that OCES should deal with more than just farm related problems, that it is serving more than a limited number of people, that it does not have a great many programs that duplicate programs of other agencies. Finally, both Leader and Random respondents indicated that the Ohio Cooperative Extension Service should definitely not be eliminated from the rural areas.

However, both Leader and Random group respondents did agree with statements that the Ohio Cooperative Extension Service is spread too thin, and that it has funding difficulties.

This study would not support the fact that Extension is "wearing too many hats". Too often, such a phrase is used synonymously with the statement that the Cooperative Extension Service is "spread too thin". These are two different dimensions. This data would support the Extension Service continuing efforts in all areas of programming in which it is currently involved. This is definitely not 'wearing too many hats'. Where the problem arises, is that the Ohio Cooperative Extension Service is currently 'spread too thin'. There are too few staff to do too many programs.

It would appear that there is sufficient evidence within this data, as well as through the support of local Extension clientele throughout Ohio, that sound arguments could be made with legislators to increase funding for the Ohio Cooperative Extension Service. However, as the introduction of this paper outlined, this is not the current complexion of the resource allocators.

Therefore, if efforts cannot be successful to increase the funding base to meet the needs of staff and programs, the Ohio Cooperative Extension Service needs to seriously address the problem of choosing which programs to eliminate. A structured process needs to be put into place that will achieve this. Perhaps what is needed is to market well what Extension does well, yet keep 'tabs' on other programming. This is probably the only way to develop into an issue based educational programming entity.

5. "People Skills" are more important than technical subject matter skills when selecting new OCES employees. Skills and abilities in teaching processes, both individual and group, must be developed by potential OCES agents. This is contrary to what has historically happened in the selection process. When selecting new OCES faculty, high competency in subject matter areas has been preferred, with a base of interpersonal skills. It seems that a high competency of interpersonal skills is what is really needed, with a solid base competence in subject matter.

REFERENCES

1. Archer, Thomas M., Data Collection Results: Three Concurrent Perspectives on Ohioan's Educational Needs, Long-Range Planning Task Force, Final Report, Ohio Cooperative Extension Service, The Ohio State University: Columbus, Ohio, October, 1987.

2. Archer, Thomas M., Focus Group Interviews - EDGE Guidesheet, Evaluation Bulletin, Ohio Cooperative Extension Service, The Ohio State University: Columbus, Ohio, May, 1987.

3. Archer, Thomas M., Focus Group Interviews with Ohio Community Leaders, Extension Professionals, and County Commissioners, A Preliminary Report presented to the Strategic/ Long Range Planning Task Force, The Ohio Cooperative Extension Service, The Ohio State University: Columbus, Ohio, June, 1987.

4. Dillman, Don A. Mail and Telephone Surveys - The Total Design Method, John Wiley and Sons: New York, New York, 1978.

5. Frey, James H., Survey Research by Telephone, Volume 150, Sage Library of Social Research, Sage Publications: Beverly Hills, California, 1983.

6. Institute for Policy Research Behavioral Sciences Library, Ohio Poll Technical Report, University of Cincinnati: Cincinnati, Ohio, May, 1987.

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THE CHARACTER OF THE OHIO COOPERATIVE EXTENSION SERVICE AS DEFINED BY THE 1987 STRATEGIC/LONG RANGE PLANNING TASK FORCE DATA COLLECTION PROCESS

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Individuals and institutions can derive great benefits from periodically taking stock of their "character". Through this process, adjustments in the objectives or programming of an organization can be made leading to improvement of services. In this study the character of the Ohio Cooperative Extension Service (OCES) was assessed by collecting information from potential users of extension services. Collecting data from consumers of extension services is a particular strength of the study. Too often strategic planning is done based on what we think we know about our clientele which may or may not be accurate. I commend the author for determining the awareness, utilization, and attitude of Ohio residents towards the OCES. I also commend the author for selecting three procedures (focus groups, a telephone survey and a mail survey) to collect information on the "character" of the OCES. As discussant, I will offer my assessment of the research methodology, results and conclusions reported in this paper.

The introduction to the paper offers a rationale for conducting the study but could be improved by citing strategies undertaken by institutions that have gone through a process of downsizing. There is a significant body of research in business that assesses the alternatives faced by organizations when confronted with funding cuts or level funding. A review of this literature would strengthen the introduction and support the purpose, objectives, and procedures of the study.

The components of the data collection process and time line were effectively presented in this paper. I do have some questions regarding the population and subject selection. Data were collected from three groups, a purposive sample of Ohio community leaders, and two separate random samples of Ohio residents. What was the population frame from which the random samples were drawn? More specifically, how were the 5,000 adults selected by the commercial firm in Columbus and how did the University of Cincinnati select the sample for the telephone interview portion of the study. The results from these two random samples of Ohio residents were considerably disparate and information on the selection of the sample might explain some of the vast differences. Did all 88 counties submit 30 leader names? If so, 365 potential respondents in the mailed survey to leaders are unaccounted for. There is also a discrepancy in the reported response rates for the mailed questionnaire and the number of usable instruments accepted for tabulation.

The instrumentation was developed with input from several sources which is commendable and the data collection procedures were adequately reported in the paper. However, an inadequate follow-up of non-respondents to the mailed questionnaire makes those results highly suspect. Miller and Smith (1983) suggest a 10-20% follow-up of nonrespondents. In this study, the 105 people contacted by phone represent only two percent of the non-respondents.

The findings of the Focus Interest Groups were most interesting. They are presented in the form of conclusions made by the researcher based upon a qualitative assessment of the comments from group participants. An explanation of why particular quotes were reported in the results section of the paper would have been helpful.

The data on awareness of the Ohio Cooperative Extension Service were equally interesting but considerably more troublesome. In one random sample of Ohio residents (818 respondents) contacted by telephone, 40.8% stated they had never heard of OCES and 79% had never used any of the services. In the second random sample of Ohio residents (805 respondents) contacted through a mailed survey, only 14% stated they had never heard of the OCES and 55% had never used OCES services. Data from which random sample more accurately represents the population of Ohio residents? I would conjecture that probably the telephone data is more valid than the mailed survey data because of the inadequate follow-up of non-respondents in the mailed survey.

Attitudes toward the OCES were the subject of objective three of the study. A nine point scale was used to collect the data however the analysis of the results is discussed as only agreement or disagreement. It would be better to interpret the data using the descriptors for the 9 points along the scale. In your discussion you do not differentiate between a mean of 4.3 and 7.0, both are treated as agreement, although there is considerable difference in the level of agreement.

In the conclusions of the study it is stated that between 2.4 and 4.9 million Ohio residents have realized contact with OCES. What are these figures based on? It is also stated in the conclusions that the data do not suggest that the OCES has a visibility problem. I disagree. If the data you present is accurate and 40.8% of the residents of Ohio have never heard of OCES and 79% have never used any OCES services then I think you have a visibility problem for the organization as a whole and its programs.

In conclusion two of the paper it is stated that since printed materials are the most often means of contact with OCES they should be the highest of priorities in future program delivery. I would disagree with this recommendation. The fact that printed materials are used most often does not necessarily mean they are the most effective and should not imply receiving the highest priority because of most frequent use. TV is cited as almost the least used technological contact that people have with the OCES. Is this because people would not turn on TV to watch extension programming or because the OCES offered few educational TV programs to watch in 1987? In conclusion four it is stated that Leaders and Random Group respondents agreed that the OCES is spread too thin. I would interpret mean values of 4.3 and 4.8 on a nine point scale to fall into the undecided category or perhaps slightly agree.

In summary, I commend the author for looking to the future in evaluating programming of the OCES but would caution readers of the research to carefully examine for themselves the methodology and data presented in the paper upon which the conclusions and recommendations are based.

MAJOR ROLES OF AGRICULTURAL EXTENSION AGENTS IN THE AGRICULTURAL TECHNOLOGY DELIVERY SYSTEM IN THE YEAR 2000

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Under provisions of the Smith-Lever Act of 1914, Cooperative Extension was established to provide informal education to the public, specifically to ". . . aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same . . ." The outgrowth is a nationwide system of informal education offering the public opportunity for lifelong learning.

Since its inception, the focal point of Cooperative Extension has been the county extension agent. Advances in agricultural and nonagricultural technologies have stirred debate on the functional importance of county agents in the agricultural technology delivery system. In addition, the overwhelming dominance of nonagricultural occupations poses an unprecedented threat not only to agricultural programs, but to the organization itself. Perhaps the importance of this study is best emphasized by the remarks of Dillman (1986):

> Concern about the future makes this an especially relevant time to examine the structure and activities of Cooperative Extension and consider the degree to which they are appropriate . . . I believe firmly that to meet the challenges of the coming years requires hard thinking about the changes that must occur in Cooperative Extension if it is to enter the next century as an important service agency. (p. 102)

OBJECTIVE

The objective of this study was to determine the major roles of county agricultural Extension agents in the agricultural technology delivery system in the year 2000 as perceived by State Directors of Cooperative Extension.

PROCEDURES

The descriptive method of research was utilized in this study. In order to develop a valid survey instrument, a letter of introduction and explanation was mailed to State Directors of Cooperative Extension (N=67) along with a request that each director identify the five major roles which, in his/her opinion, agricultural extension agents would play in the agricultural technology delivery system in the year 2000. Followup letters were sent to those who failed to respond. Vague statements were identified as to the source and telephone calls made to obtain clarification. Fifty-three survey forms were returned, of which 52 were usable.

A review committee, composed of two graduate students and two faculty members, then reviewed, sorted and combined statements received and, whenever necessary, edited statements without altering the intended meaning. The edited statements were compiled to form the second survey instrument.

The second instrument, consisting of 72 statements, was administered to the same population. Directors were asked to rate each statement as to its perceived importance as a role of agricultural Extension agents in the year 2000 on a scale of 5 - Essential; 4 - Very Important; 3 - Important; 2 - Somewhat Important; and 1 - Not Important. Completed forms were received from 55 directors (82%). As a check on nonresponse bias, seven statements were randomly selected for comparison. Telephone calls were made to five randomly selected directors to solicit their responses. Results revealed no significant differences between respondent and nonrespondent ratings when responses were analyzed with the t-test. A post hoc reliability test using Cronbach's alpha resulted in a coefficient of .90 for the 72 item questionnaire.

FINDINGS

Of the 72 statements rated by study participants, 10 achieved overall mean ratings of 4.25 and above, as seen in Table 1. The statement with the highest rating (overall mean of 4.56) places the agent in the role of "problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele." Consensus of opinion on that statement was reinforced in that, in addition to having the highest overall mean of the 72 statements rated, it also had the lowest standard deviation (SD of 0.60).

Four of the top ten items are related to the agent's role as a link between the clientele and the research community. In this role, directors visualize the agent as an interpreter and a disseminator of research as well as one who helps identify research needs and to integrate research into the production and marketing of agricultural products. Other items relate to the agent's role as a program planner, in community economic development programs, as an educator and as a user of technology to deliver information to clientele.

Statements were grouped into 10 categories to assist in interpretation and presentation of data. While the statement, "coordinate and promote youth program in the county" was considered important (overall mean of 3.31), it was the only statement that dealt with the agent's future responsibilities toward youth. The statement was considered significantly more important by directors from the southern region and from 1890 institutions than by others.

Three of the major roles identified by directors were those in which the agent would assume a specialized position. These roles were perceived as being important though not essential. The specialized role rated highest (overall mean of 4.11) called for the agent to assume multi-county responsibility by serving as the expert in a particular program area.

The most highly rated statement in the category of resource development was one in which the agent would participate in agriculturally based economic development programs. Five other roles were perceived by directors in this category. A major difference of opinion emerged when responses of directors with and without agent experience were compared. Those without agent experience considered it much more important that the agent in the year 2000 utilize volunteers to extend his/her influence than did those with agent experience.

Ten statements in the second instrument were related to technology usage. Applications of technology ranged from providing software to clientele and the use of microcomputers to expert systems and interactive satellite video. No significant differences were found in any of the variables studied. Perceived as most important roles were microcomputer usage to deliver expert production and marketing systems and the use of interactive video to assist in planning and decision making.

Directors evaluated eight roles in which the agent would be a provider of information. Most important was the role which called for the agent to serve as an objective source of information for clientele. Also considered very important was the role of interpreter of new developments in agriculture. The roles of arranging client contact with Extension specialists and linking potential users of technology with those who have the technology were perceived significantly more important by directors in 1890 institutions than by those in 1862 institutions.

Part of the extension mission has been to interpret and disseminate research based information and technology. Continuation of this practice in the future is evident as four research related roles were considered essential by directors. Highest rated statements in this category were roles of interpreting, localizing, and disseminating research based information, service as a linkage between clientele and the research community, and using a systems approach to integrate research into the family farm system.

Nine roles identified were concerned with problem solving, though only one was rated with an overall mean above 4.25, i.e., "A problem solver, bringing to bear the resources of the land grant university on the needs and problems of the clientele." That statement eloquently and accurately reflects the philosophy and mission of Extension education as it exists today.

Generating the most differences of opinion among respondents were the statements dealing with policy and political roles of agents. While all six statements in this category were considered important by directors, those from the northeast and southern regions considered the roles involved with farm organization and advisory committee work, public policy awareness, and poverty eradication significantly more important than did those from the north central and western regions. Further, directors of 1890 institutions considered roles concerned with public policy awareness, poverty eradication, and communication of policy and regulations to be significantly more important than did directors from 1862 institutions.

Since the Extension Service is an educational organization, it was not surprising that directors identified several teaching and communication roles that agents would fill in the year 2000. Future agents, according to directors, will be "resident educators" and not simply facilitators. This will require enhanced expertise in agricultural technology and teaching methodologies. Other major roles include communicating local issues to Extension and research colleagues, bridging the gap between specialists and producers, and providing direct consultations with clients.

Almost synonymous with "Extension agent" is the title "change agent," in that Extension education objectives often encourage clientele change. Eight of the roles identified by directors address change--change in clientele; change in Extension agent roles; change in Extension education. Directors particularly favored program development directed at the application of improved technology. They also expect the agent to be knowledgeable of diverse subject matter and changing clientele. Directors at 1890 institutions more strongly favor the role of encouraging clientele to work toward self-sufficiency and in utilizing innovative approaches to serve the hard to reach audience than do those in 1862 institutions.

The product-moment coefficient of correlation was utilized to determine relationships between ratings of statements in each category and directors' ages, years in their positions, and years as a county agricultural Extension agent (Table 2). A significant relationship was found only between directors' years in their present positions and their ratings of statements in the category of roles in which the agent would function as a problem solver.

RECOMMENDATIONS

1. In order to expand the knowledge base and broaden the area of expertise from which to draw upon to serve Extension's clientele, directors should cultivate cooperative agreements with all colleges and departments in the university system.

2. Agencies and institutions supported by the USDA that are conducting agricultural research should more vigorously solicit Extension input in the process of assessing research needs.

3. USDA supported agencies and institutions conducting research should develop efficient conduits which will provide Extension with maximal accessibility to research information, and assist the development of practical applications which will accelerate the transfer and adoption of technologies.

4. Research and Extension staff must be maintained at a level at which the maximum potential for agricultural development can be reached.

5. Extension should thoroughly investigate applications for electronic technologies to ensure that implementation achieves the expected benefits.

6. Extension must provide adequate inservice training to ensure proficient staff and the development of new competencies.

7. Further research should be conducted in the areas of land grant university obligations to citizens, effectiveness of university based research in promotion of agricultural development, application of electronic technologies in Extension, and problems affecting the transfer of technologies by Extension.

REFERENCES

Calvert, P. (Ed.) (1986). Change. Extension Review, 57 (3).

Dillman, D. A. (1986). Cooperative extension at the beginning of the 21st century. The Rural Sociologist, 6, 102-119.

Filek, R. R. (1986). "Agricultural industry: 21st century assumptions." Presentation to the National Extension Committee of the Joint Council. (March 13).

Rosenblum, J. W. (Ed.) (1983). Agriculture in the twenty-first century. New York: Wiley & Sons.

Smith-Lever Act (1914). U.S. Congress.

Table 1

Major Roles of Agricultural Extension Agents in the Agricultural Technology Delivery System in the Year 2000 as Perceived by State Extension Directors, with Mean Ratings of 4.25 and Above

Statement	Mean Rating (N=55)	Standard Deviation
A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.56	0.60
Interpret and localize research based information to address high priority needs.	4.46	0.77
Continue to disseminate technology from research.	4.46	0.79
Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.44	0.66
The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.44	0.72
Program planning, implementation and evaluation.	4.41	0.77
Participate in agriculturally based economic development programs.	4.37	0.76
Serve as a resident educator, not simply a facilitator. This will require enhanced expertise in agricultural technology and teaching methodologies (people skills).	4.30	0.94
Become proficient in the use of technology, such as microcomputers to deliver expert production and marketing systems to innovators, larger producers and any other interested producers.	4.28	0.71
Will continue to be the "eyes and ears" for determining local needs and developing statewide programs.	4.28	0.74

Rating Scale:
5 - Essential
4 - Very Important
3 - Important
2 - Somewhat Important
1 - Not Important

Table 2

Relationships Between Statement Ratings and Directors' Ages, Years in Present Position, and Years as a County Agricultural Extension Agent

Category	r-Value		
	Age	Years in Present Position	Years as an Agent
Youth	.21	.01	.07
Specialist	-.01	.07	-.06
Resource Development	-.05	-.02	-.10
Technology	-.04	-.10	-.16
Information	.11	.05	-.12
Research	.02	-.13	.10
Problem Solving	-.11	-.31*	.18
Policy and Politics	.04	.05	.02
Education, Teaching and Communication	-.01	-.11	.04
Change Agent	.05	-.13	.07
Miscellaneous Functions	-.01	-.02	-.07

* Significant at the .05 level of confidence.

Table 3

Comparison of the Top Ten Perceived Major Roles of Agricultural Extension Agents, by Directors at 1862 and 1890 Universities

Directors at 1862 Universities		Directors at 1890 Universities	
Statement	Mean	Statement	Mean
The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.56	Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.78
A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.53	Work with those on the cutting edge of technology to determine and support research in subject matter areas that will contribute to profitable farming and ranching.	4.67
Interpret and localize research based information to address high priority needs.	4.49	Will be serving a much broader urban agriculture clientele than at present.	4.67
Continue to disseminate technology from research.	4.49	A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.67
Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.38	Identifying and using innovative approaches designed to serve the hard to reach audience (non-traditional participants).	4.67
Program planning, implementation and evaluation.	4.38	Encourage clientele on working toward self-sufficiency.	4.67
Participate in agriculturally based economic development programs.	4.33	Serve as change agents by being knowledgeable of diverse subject matter and changing clientele.	4.67
Will continue to be "eyes and ears" for determining local needs and developing statewide programs.	4.29	Participate in agriculturally based economic development programs.	4.56
Serve as a resident educator, not simply a facilitator. This will require enhanced expertise in agricultural technology and teaching methodologies (people skills).	4.29	Program planning, implementation and evaluation.	4.56
Become proficient in the use of technology, such as microcomputers, to deliver expert production and marketing systems to innovators, larger producers and any other interested producers.	4.27	Identify and pass to Extension administrators client concerns, problems and opportunities.	4.56
Utilize electronic technology, such as interactive video and expert systems, to assist in planning and decision making.	4.27	Contribute toward the eradication of poverty among rural citizens.	4.56

Rating Scale:
5 - Essential
4 - Very Important
3 - Important
2 - Somewhat Important
1 - Not Important

Table 4

Major Roles of Agricultural Extension Agents in the Year 2000 as Perceived by State Extension Directors, by Region

North Central Region (n=10)		Northeast Region (n=16)	
Statement	Mean	Statement	Mean
Interpret and localize research based information to address high priority needs.	4.60	Continue to disseminate technology from research.	4.80
Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.50	Program planning, implementation, and evaluation.	4.80
Continue to disseminate technology from research.	4.40	A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.73
Participate in agriculturally based economic development programs.	4.40	Interpret and localize research based information to address high priority needs.	4.67
Become proficient in the use of technology, such as microcomputers, to deliver expert production and marketing systems to innovators, larger producers and any other interested producers.	4.30	Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.67
Assume responsibility for assigned specialized technology and become proficient to serve these clientele on the cutting edge of technology.	4.30	Will continue to be "eyes and ears" for determining local needs and developing statewide programs.	4.67
Work with those on the cutting edge of technology to determine and support research in subject matter areas that will contribute to profitable farming and ranching.	4.30	The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.60
The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.30	Keep on top of emerging issues as seen from the local level, and communicate these issues to appropriate Extension and research colleagues beyond the local level.	4.47
A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.30	Program development, directed at the application of improved technology, including the identification of high priority needs, program planning, program implementation and evaluation.	4.47
Introduce new, innovative ideas, processes and enterprises.	4.30	Working with agricultural producers on total resource management including financial management, labor management, time management and production scheduling for maximum efficiency.	4.40 4.40
		Get producers to recognize the need for integrated management information as opposed to production information.	4.40
		Serve as a resident educator, not simply a facilitator. This will require enhanced expertise in agricultural technology and teaching methodologies (people skills).	4.40

(Continued)

Table 4 (Continued)

Southern Region (n=18) Statement	Mean	Western Region (n=10) Statement	Mean
Participate in agriculturally based economic development programs.	4.67	The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach	4.40
A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.61	A problem solver bringing to bear the resources of the land grant university on the needs and problems of the clientele.	4.40
Program planning, implementation and evaluation.	4.56	Direct client consultation - the agent will continue to be the field representative for the Extension network.	4.40
Serve as a resident educator, not simply a facilitator. This will require enhanced expertise in agricultural technology and teaching methodologies (people skills).	4.50	Teach integrated problem solving using complex production, management, economic and social information.	4.33
Become proficient in the use of technology, such as microcomputers, to deliver expert production and marketing systems to innovators, larger producers and any other interested producers.	4.44	To teach leadership skills and techniques for agriculture and rural communities, and provide the framework for human resource development.	4.30
Serve as a linkage between clientele and research community to identify high priority problems limiting success of agricultural enterprises that could be addressed through either applied or basic research.	4.44	Assume responsibility for assigned specialized technology and become proficient to serve these clientele on the cutting edge of technology.	4.30
Continue to disseminate technology from research.	4.44	Get producers to recognize the need for integrated management information as opposed to production information.	4.30
Assist clientele in the use of an integrated system of evaluating market alternatives and implementation of improved marketing strategies for agricultural products.	4.44	Agent will have a regional (multi-county) responsibility as the expert (specialist) in a specialized program area.	4.20
Utilize electronic technology, such as interactive video and expert systems, to assist in planning and decision making.	4.39	Interpreter of new developments in biotechnology and agricultural chemicals.	4.20
Interpret and localize research based information to address high priority needs.	4.39	Will continue to be "eyes and ears" for determining local needs and developing statewide programs.	4.20
The integration of agricultural production, marketing, and policy research base into the family farm system, involving interpretation, application, and integration through a systems approach.	4.39	Continue to serve as a bridge between specialist/research community and producers, particularly for small and middle-sized farming and ranching operations.	4.20
Serve as change agents by being knowledgeable of diverse subject matter and changing clientele.	4.39	Program development, directed at the application of improved technology, including the identification of high priority needs, program planning, program implementation and evaluation.	4.20

Rating Scale:
5 - Essential
4 - Very Important
3 - Important
2 - Somewhat Important
1 - Not Important

MAJOR ROLES OF AGRICULTURAL EXTENSION AGENTS IN THE AGRICULTURAL TECHNOLOGY DELIVERY SYSTEM IN THE YEAR 2000

Steven C. Bonanno, et al. -- Author

Jeffrey W. Moss - Louisiana State University --Discussant

Many changes have occurred in the role of the county extension agent throughout the past 75 years of extension history. Will the changes of the past 75 years equal the change that will occur in the next 11 years as we enter the year 2000? I suggest they will not. Given the rapidly changing complexion of extension clientele and the technological advances likely to occur in the 1990's, the role of the extension agent in the agricultural technology delivery system will have to undergo significant changes if extension is to celebrate another 75 years of existence. The authors of the study are to be commended for looking to the future for the major roles of county agents in the year 2000.

The introduction of this paper emphasizes the importance of the study to the future of extension. The quote by Dillman adequately sets the stage for why the study is needed. The only suggestion I would offer for improving the introduction would be to add a section on the future of agriculture in the 21st century. Documenting the changes likely to occur in agriculture in the next century would underscore the need for considering changes in the role of the county extension agent in the year 2000. The references by Filch and Rosenblum looked especially interesting.

The objective of the study was concise and the procedures used to collect the data were sound. Attention was given to assuring validity, reliability, and representativeness of the data collected from the population of state Directors of Cooperative Extension. The authors are to be commended for planning and conducting a study with appropriate research methodology.

The findings of the study as summarized in the text are adequately supported by the data presented in the tables. Differences in perceptions of State Directors by institutions (1862 or 1890) and regions were discussed in the findings. It is unclear as to how significant differences between or among the groups were determined. If a predetermined difference in means was established a priori as indicating a significant difference between groups it would be helpful to the reader to know that information. I would recommend this procedure over running 72 non-independent t-tests to determine significant differences.

The correlational analysis of Director characteristics and their responses to future roles of county agents was quite interesting. Do you have any explanation for why there is significant correlation between perceptions of the role of the agent as problem solver and years in present position?

I happen to agree with the recommendations presented in the paper. However, I find it difficult to make the connections between the data presented as findings of this study and the recommendations. I believe the study offers some excellent facts of importance for agent training or retraining. One recommendation obvious to me based on the results of the study is that a continued or renewed emphasis should be placed on the role of the agent as a problem solver as we approach the year 2000. This was a well done, interesting study and I commend the authors for their work.

SESSION B

May 17, 1989

THE RELATIONSHIP OF MARKETING ACTIVITIES AND PROMOTIONAL METHODS USED WITH COUNTY 4-H CLUB MEMBERSHIP IN NEW JERSEY AND OHIO

by

KEITH G. DIEM

FACTORS ASSOCIATED WITH MASTERY OF THE 4-H PROFESSIONAL RESEARCH AND KNOWLEDGE BASE

by

GARY W. GERHARD AND KEITH L. SMITH

THE RELATIONSHIP BETWEEN SELECTED ANTECEDENT CHARACTERISTICS AND THE PERCEIVED EDUCATIONAL NEEDS OF EXTENSION AGENTS WITH 4-H YOUTH DEVELOPMENT RESPONSIBILITIES

by

ROGER RENNEKAMP

THE RELATIONSHIP OF MARKETING ACTIVITIES AND PROMOTIONAL METHODS USED WITH COUNTY 4-H CLUB MEMBERSHIP IN NEW JERSEY AND OHIO

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INTRODUCTION

Four-H has aimed to be an informal, practical, learning-by-doing educational program for all youth, ages 9-19, from all racial, cultural, economic, and social backgrounds, wherever they live. Four-H has been the youth development component of the Cooperative Extension Service, one of the three segments (research, teaching, and extension) of the land-grant institution in each state (4-H for youth, 1986).

In the more than 70 years since the Cooperative Extension Service and 4-H were established, many changes took place in the world, and accordingly, in the Cooperative Extension/4-H program. Although 4-H enrollment has fluctuated over time, in recent years it has exhibited a general decline, somewhat greater than the downward trend of potential youth during the transition of "Baby Boomers" maturing and becoming parents. (Annual 4-H youth, 1980, 1985).

The issue of declining 4-H enrollment has prompted Extension professionals to determine which factors contribute to high enrollment. Since membership in 4-H has been voluntary, various methods have been needed to recruit new members and retain those currently enrolled. Ultimately, the problem facing the researcher was that although 4-H professionals have used promotional methods and marketing activities, they have not known which ones, individually or in combination, have been the most effective in attaining a high level of 4-H membership within counties. This study aimed to address this problem.

PURPOSE AND OBJECTIVES

The major goal of this study was to determine how county 4-H club membership was related to the use of marketing activities and/or promotional methods by county 4-H programs. In addition to the main variables investigated, the following rival variables were studied: percent of a county's population living in urban areas, average number of years of professional service to the 4-H program in their current counties by 4-H professionals, and the amount of professional time devoted to 4-H program responsibilities in each county (4-H PTD's). Also, the number of potential youth available to join 4-H in counties was controlled by defining 4-H club membership as a percentage of potential youth, for each county 4-H program.

The specific objectives of this study were as follows:

1. To describe the levels of the following attributes* for each of the states and the total population:
   a. Degree of use of promotional methods in county
   b. Variety of promotional methods used in county
   c. Degree of use of marketing activities in county
   d. Percent of county's population living in urban areas

  e. Amount of professional time devoted to 4-H program responsibilities (4-H PTD's) in county
  f. Number of years professional service to 4-H program in current county by 4-H professional(s).
  g. Gender of 4-H professional(s) in county
  h. Ages of 4-H professional(s) in county
  i. Number of 4-H club members enrolled in county
  j. Number of potential youth available to join 4-H in county
  k. Percent of potential youth served by 4-H clubs in county
  l. Types of Extension professionals working with 4-H in county
  m. Types of promotional methods used in county
  n. Types of marketing activities used in county

*This list is larger than the list of the variables used because some attributes were included for descriptive purposes only.

2. To describe the relationships between use of each of the 45 types of promotional methods and each of the 20 marketing activities listed with the dependent variable, percent of potential youth served by 4-H clubs.

3. To test the following main hypotheses:
    a. The greater the degree of use of promotional methods, the greater the percent of potential youth served by 4-H clubs.
    b. The greater the variety of promotional methods used, the greater the percent of potential youth served by 4-H clubs.
    c. The greater the degree of use of marketing activities, the greater the percent of potential youth served by 4-H clubs.

4. To test the following rival hypotheses:
    a. The greater the percentage of a county's population living in urban areas, the lower its percent of potential youth served by 4-H clubs.
    b. The greater the number of 4-H PTD's serving in a county, the greater the percent of potential youth served by 4-H clubs.
    c. The greater the average number of years professional service to the 4-H program in the current county by 4-H professionals, the greater the percent of potential youth served by 4-H clubs.

5. To determine the best predictor(s) of the dependent variable, percent of potential youth served by 4-H clubs.

THEORETICAL FRAMEWORK

The size of 4-H membership in a given county has been affected by both the recruitment and retention of 4-H members. The researcher theorized that both marketing and promotion would be related to current 4-H enrollment. One aim of promotion is to communicate a favorable image of an organization (Pride & Ferrell, 1985). Consequently, since Boyle and Brown (1964, p.34) stated that "The image that people have of an organization will determine, to a great extent, their participation [in it]", then this would involve not only an initial decision to join an organization, but also a decision to remain in it, thus relating promotion to the aspect of retention as well as recruitment.

Marketing aims to meet customer/clientele needs and keep them satisfied, and thus would encourage customer loyalty to a product, or in this case, 4-H member retention. However, the application of variables involved in a market mix (product, price, promotion, and place) should also influence new members in their decisions to join an organization. If the market mix is right for them, they should be willing to enroll (Pride & Ferrell, 1985).

"Promotion . . . is the communication function of marketing" (Engel, Warshaw, & Kinnear, 1983, p. 16). It "refers to communication undertaken to persuade others to accept ideas, concepts, or things." Pride and Ferrell (1985, p. 331) stated that "Several types of promotional methods can be used to communicate with individuals, groups, and organizations" and that "When an organization combines specific ingredients to promote a particular product, that combination constitutes a promotion mix for that product." They listed four major categories of promotion that can be included in an organization's promotion mix: advertising, personal selling, publicity, and sales promotion. Within each category are a multitude of specific individual promotional methods available.

The desired outcome of promotional activity is based on the hierarchy of effects hypothesis,where promotion works "to stimulate awareness, which leads to attitude change, which leads to behavioral change." Thus, it "is basically a model of consumer response to promotional activity . . . [where] the consumer passes through the stages of awareness, knowledge (cognitive), liking and preference (affective), intention-to-buy or conviction, and purchase (behavioral)" (Engel, Warshaw, & Kinnear, 1983, p. 164). This is supported by models developed by Engel and Blackwell (1982) and Fishbein and Ajzen (1975).

Engel, Warshaw, & Kinnear (1983, p. 379) described a factorial experimental design employed by Ford Motor Company to compare sales in regions using various combinations of media in an advertising campaign. Ford reported that the data "revealed a definite relationship between advertising and sales but no significant advantage for any of the media tested." A variety of other studies regarding both Extension and non-Extension audiences (Scherer, 1980; Johnston, 1982; Lawson and Dail, 1966; Marsh and Knox, 1966; Wilson, 1963) have reported mixed results of the success of specific promotional methods and/or their potential for reaching audiences, depending on the objectives, use, and location of use of such methods. To date, there appear to be no clear answers regarding this complex topic.

Salcedo (1974) reported that a variety of channels have been shown to be more useful than public service mass media alone. Therefore, mass media, especially heavy reliance on a single type do not appear to be the answer to all problems of image and recruitment, emphasizing the need for the use of a variety of promotion methods. Literature related to learning theory and instructional media has also supported the value of using a variety of communication channels.

The term marketing has been heard frequently in recent years, although it is has not been clearly understood by many people. In general, marketing has been associated with only the business environment, but some aspects of the concept are applicable to non-business settings as well. Besides being a distinctly different management philosophy and orientation of an organization, marketing consists of activities performed by the management of the organization. One of the marketing activities performed by a program manager is the formulation of a marketing mix. A marketing mix consists of four decision variables, often known as the "4 P's": Product, Promotion, Price, and Place. Another marketing activity performed by a program manager is the development of a marketing strategy. A "marketing strategy encompasses selecting and analyzing a target market (the group of people whom the [organization] wants to reach) and creating and maintaining an appropriate marketing mix (product, price, promotion, distribution) that will satisfy those people" (Pride & Ferrell, 1985, p. 25).

George, Buchanan, and Bramblett (1976) claimed that a marketing management orientation supplements the work of adult educators such as Houle and Knowles, who were instrumental in using program planning models to develop programs for clients, and is easier to understand by Extension professionals. The authors proclaimed that the marketing approach "reorients the perspective of the Extension manager [so that] instead of focusing on a set of available institutional services, the Extension manager now begins the program development process based on felt and ascribed client needs" (p. 17). They described the following University of Georgia case as evidence of the potential results of applying marketing concepts to an educational organization:

> "In applying these marketing techniques, the service activities of the university have increased. The average annual increase in the number of programs held on campus has been 20% for the last 3 years, while the number of off-campus programs and projects conducted in the same period has tripled. This expansion has occurred without additions to the resource base. In addition, the pre- and post-program evaluations have revealed that the quality of service now being received by the clientele groups has risen sharply" (p. 16).

George, et al. concluded by stating that "The Extension program will ultimately fail unless marketing information is collected and used to develop marketing plans that effectively serve the Extension unit's publics" (p. 19).

PROCEDURES

This study was ex post facto research, with the primary purpose of determining how the use of promotional methods and marketing activities in 4-H related to the dependent variable, percent of potential youth served by 4-H clubs. A mailed questionnaire was the primary means used to collect data about the population studied. The target population of the study consisted of two sub-groups, or strata: the county 4-H programs in the 20 counties of New Jersey where Rutgers Cooperative Extension maintains 4-H, and those in the 88 counties of Ohio. Ultimately, 107 counties were studied, after one county in New Jersey was removed from the study (at the county's request) because the 4-H agent position was vacant and no other Extension professional with knowledge of the information requested was present in the county.

A written questionnaire was developed by the researcher to collect data to measure the levels of the following variables and attributes: types of marketing activities used, degree of use of marketing activities, types of promotional methods used, degree of use of promotional methods, variety of promotional methods used, amount of professional time devoted to 4-H program responsibilities (4-H PTD's), number of years of professional service to the 4-H program in current county, gender of 4-H professionals, ages of 4-H professionals, and titles of 4-H professionals. All other information was collected from either U.S. Census documentation or Extension ES 237 statistical reports. After a post card reminder and a second mailing was sent to the few non-responding counties, a final return rate of 100 percent was attained.

The instrument consisted of three sections. Section one, entitled "Promotional Methods Used In Your County", consisted of a list of 45 promotional methods/media used to present information about the 4-H program. The 45 items were organized by the four categories of promotional methods that can make up a promotion mix for an organization: publicity, advertising, personal selling, and sales promotion. Respondents were asked to indicate the degree to which each promotional method/medium had been used in their counties during the period of October 1, 1985 through September 30, 1986, by circling a corresponding rating score on a six-point Likert-type scale for each. Respondents were also provided the option of circling "NA", indicating that the "Medium/method [was] not used only because it was not available". The "NA" response was not used in calculations, however.

Section two, entitled "Marketing Activities Used In Your County", consisted of a list of 20 marketing activities as applicable to the 4-H program. Respondents were asked to indicate the degree to which each marketing activity had been used in their counties during the period of October 1, 1985 through September 30, 1986, by circling a corresponding rating score on a six-point Likert-type scale for each.

Section three was entitled, "Information About You And Your County", where respondents were asked to report the amount of professional time devoted to 4-H program responsibilities (4-H PTD's), number of years of professional service to 4-H program in current county, gender, ages, and titles of all 4-H professionals working in their counties as of March 1, 1987.

A panel of experts was used to assess the content validity of the instrument and determined that the content purported to be measured in this study had been adequately sampled by the instrument for its intended purposes and population. To establish the reliability of the instrument's results, the questionnaire was pilot tested using a census of a similar population: the 67 county 4-H programs in Pennsylvania. Cronbach's alpha, a measure of the internal consistency of an instrument, was calculated using the SPSSx computer program for sections one and two of the instrument. Analysis of results of the pilot test yielded Cronbach's alpha coefficients of .92 and .92, respectively. A reliability analysis of the final instrument used in the study was also conducted, yielding coefficients of .90 and .93, respectively.

Descriptive statistics were used to organize and summarize the data. The two states were described separately as well as collectively. Pearson Product Moment correlation coefficients were computed to assess the direction and magnitude of the associations between pairs of selected variables. Scattergrams were plotted to ensure that assumptions of linearity of data distributions and homoscedasticity had been met.

Although this study was a census, inferential statistics were employed since the county 4-H programs studied were considered to represent a sample of 4-H programs and 4-H professionals at a given point in time, and findings could therefore be generalized to future county 4-H programs. Tests of statistical significance were performed at the .05 alpha level, determined a priori. Stepwise multiple linear regression procedures were used to determine the best predictors of the dependent variable, percent of potential youth served by 4-H clubs. The total R^2 value was computed to determine the amount of variance in the dependent variable accounted for by the linear combination of independent variables.

RESULTS

Overall, of the 230 Extension professionals working with 4-H in the 107 counties of the study, two-thirds were female and one-third were male. County Extension professionals working with 4-H averaged 39 years of age. County 4-H programs had an average of eight years of professional service to the 4-H program in the county by 4-H professionals. On the average, counties had one and one-half PTD's working with the 4-H program. (A 4-H PTD is a fraction of a work week of Professional Time Devoted to the 4-H program by Extension professionals, thus similar to the unit, FTE.) Overall, at least one-half of the counties had one full 4-H PTD or more, and county professionals averaged slightly less than a full 4-H PTD each. Of the 230 Extension professionals working with 4-H in the 107 counties in the study, the greatest proportion were county 4-H agents and the smallest proportion were Extension/program associates. An average of nearly 26,000 potential youth per county were available to join 4-H. On the average, eight percent of the potential youth per county were served by 4-H clubs.

Counties had an average of 50 percent of their populations living in urban areas. Counties had an average degree of use of promotional methods score of 2 out of a maximum frequency of use score of 5. Of the 45 promotional methods listed, counties used an average of 27 different items. Counties in both states used at least 15 of the 45 methods listed, with some counties using as many as 40 different promotional methods. Counties had an average degree of use of marketing activities score of 2.4 out of a maximum score of 5. Generally, the least used promotional methods were advertising, particularly television, whereas there were a variety of methods which were most used. Generally, the least used marketing activities were related to long-term planning, identifying and targeting audiences and subsequently, consideration of the needs and interests of potential audiences (not currently involved in 4-H).

Table 1
Degree of Use of Promotional Methods

Group	N	Mean	SD
New Jersey	19	2.01	.59
Ohio	88	2.05	.78
Total	107	2.04	.75

Md=1.95 Mo=1.60 Min=.53 Max=4.21

Table 2
Variety of Promotional Methods Used

Group	N	Mean	SD
New Jersey	19	25	5.7
Ohio	88	27	5.8
Total	107	27	5.8

Md=27 Mo=26 Min=15 Max=40

Table 3
Degree of Use of Marketing Activities

Group	N	Mean	SD
New Jersey	19	2.15	.92
Ohio	88	2.46	.87
Total	107	2.40	.88

Md=2.40 Mo=3.25 Min=.30 Max=4.65

Table 4
Percent of Population Living in Urban Areas per County

Group	N	Mean	SD
New Jersey	19	75.3	22.4
Ohio	88	44.7	24.0
Total	107	50.1	26.4

Md=47.9 Mo=0 Min=0 Max=100

Table 5
Average Number of 4-H PTD's per County

Group	N	Mean	SD
New Jersey	19	2.4	1.18
Ohio	88	1.3	.66
Total	107	1.5	.88
Md=1.2	Mo=1.0	Min=.25	Max=5.5

Table 6
Average Number of Years of Professional Service to 4-H Program in Current County per County

Group	N	Mean	SD
New Jersey	19	9.1	6.8
Ohio	88	7.2	5.3
Total	107	7.6	5.6
Md=6.7	Mo=1	Min=1	Max=30

Table 7
Percent of Potential Youth Served by 4-H Clubs per County

Group	N	Mean	SD
New Jersey	19	2.1	1.8
Ohio	88	9.3	5.2
Total	107	8.1	5.5
Md=7.9	Mo=.46	Min=.46	Max=22.3

Six research hypotheses were tested. A negligible relationship was found between degree of use of promotional methods and percent of potential youth served by 4-H clubs. However, this relationship was not statistically significant (p>.05). Therefore, Hypothesis 1, "The greater the degree of use of promotional methods, the greater the percent of potential youth served by 4-H clubs" was not accepted.

A negligible negative relationship was found between variety of promotional methods used and percent of potential youth served by 4-H clubs. However, this relationship was not statistically significant (p>.05). Therefore, Hypothesis 2, "The greater the variety of promotional methods used, the greater the percent of potential youth served by 4-H clubs" was not accepted.

A low relationship was found between degree of use of marketing activities and percent of potential youth served by 4-H clubs. However, this relationship was not statistically significant ($p>.05$). Therefore, Hypothesis 3, "The greater the degree of use of marketing activities, the greater the percent of potential youth served by 4-H clubs" was not accepted.

Table 8
Hypotheses Testing: Pearson Product Moment Correlation Coefficients Representing Relationships of Independent Variables with Percent of Potential Youth Served by 4-H Clubs

Independent Variable	r
1) Degree of Use of Promotional Methods	.09
2) Variety of Promotional Methods Used	-.10
3) Degree of Use of Marketing Activities	.10
4) Percent of County Population Living in Urban Areas	-.78*
5) Amount of Professional Time Devoted to 4-H Program Responsibilities (4-H PTD's)	-.36*
6) Number of Years of Professional Service to 4-H Program in Current County	.04

N = 107 *$p < .05$ where H_o: Rho = 0

A very strong negative, statistically significant ($p<.05$) relationship was found between percentage of a county's population living in urban areas and percent of potential youth served by 4-H clubs. Therefore, Hypothesis 4, "The greater the percentage of a county's population living in urban areas, the lower its percent of potential youth served by 4-H clubs" was accepted.

A moderate negative, statistically significant ($p<.05$) relationship was found between number of 4-H PTD's serving in a county and percent of potential youth served by 4-H clubs. Since the relationship was negative, Hypothesis 5, "The greater the number of 4-H PTD's serving in a county, the greater the percent of potential youth served by 4-H clubs" was not accepted. Instead, this finding indicates that as the number of 4-H PTD's serving in a county increases, the percent of potential youth served by 4-H clubs would be expected to decrease. However, this variable was later found to be confounded by its relationship with the percentage of a county's population living in urban areas variable.

A negligible relationship was found between average number of years professional service to the 4-H program in the current county by 4-H professionals and percent of potential youth served by 4-H clubs. However, this relationship was not statistically significant ($p>.05$). Therefore, Hypothesis 6, "The greater the average number of years professional service to the 4-H program in the current county by 4-H professionals, the greater the percent of potential youth served by 4-H clubs" was not accepted.

A backward stepwise linear regression analysis was performed to determine the best predictor(s) of the dependent variable, percent of potential youth served by 4-H clubs. All six of the independent variables were entered in the model. Only percent of a county's population living in urban areas remained in the model (at $p<.05$); however, 61 percent of the variance in the dependent variable could be explained by it. Consequently, the following equation provides the best prediction of the dependent variable: Percent of Potential Youth Served by 4-H Clubs = -.163 (% of Population Living in Urban Areas) + 16.2

Table 9
(Backward) Stepwise Multiple Linear Regression of Percent of Potential Youth Served by 4-H Clubs with Independent Variables

Independent Variable	B	R2	Partial R2	# Variables in model
Percent of Population Living in Urban Areas	-.163	.607	.610*	1
Number of Years of Professional Service to 4-H program in current county	.101	.619	.012	2
Number of 4-H PTD's	-.503	.625	.005	3
Degree of Use of Marketing Activities	.580	.627	.003	4
Degree of Use of Promotional Methods	-.460	.630	.002	5
Variety of Promotional Methods Used	.0012	.630	.000	6

N = 107 *$p < .05$ where F = 162.44 (df = 1, 105)

Note: Raw score partial regression coefficients (B values) for all variables but percent urban were calculated with all variables entered in the model. The Y-axis intercept was similarly determined.

CONCLUSIONS AND RECOMMENDATIONS

Given the very strong negative relationship between the percent of a county's population living in urban areas with 4-H club membership, the urban factor needs to be given much more serious consideration by Extension professionals at all levels in regard to educational programming. If 4-H sincerely intends to be a program for all youth, wherever they live, then major efforts must be made to see that this slogan becomes reality. The needs and interests of youth in urbanized areas must be more clearly determined and responded to with appropriate programming efforts. Furthermore, 4-H must not adhere so strongly to outdated traditions and routine not appropriate for attracting youth of the 1980's to a program which sometimes might be accused of perpetuating only the memories of farm-based audiences of prior generations.

In regard to promotion efforts, this study has suggested that the mere frequency of use of promotional methods will not be effective in attaining goals of promotion. The quality of promotion efforts is more likely to be a factor. Therefore, promotion must communicate an accurate, up-to-date, and appropriate image of the 4-H program. Although a variety of delivery modes must be considered and used where appropriate, the 4-H club option should not be routinely disregarded as a suitable means to reach youth in urbanized areas. Long-term planning was one of the lowest-rated areas of marketing activities used. This type of planning may help the program be better prepared in advance to meet diverse clientele needs. Promotion of the program will be in vain if 4-H doesn't have something relevant to offer. In regard to quality use of promotional methods, 4-H professionals may need on-job training along with training in the use of marketing activities.

This study only looked at the frequency of use of promotional methods. The quality of promotion needs to be looked at also. Furthermore, this study only examined the relationship of use of promotional methods and marketing activities with percent of potential youth served by 4-H clubs. The relationships of the independent variables included in this study with other dependent variables such as percent of youth served by the 4-H program (by all delivery modes) and 4-H program quality should also be investigated. Last, this study should be continued over a greater time period to allow relationships with the dependent variable to have a better chance to manifest themselves.

REFERENCES

Annual 4-H youth development enrollment report: 1980 fiscal year. (1980). Washington, DC: United States Department of Agriculture Extension Service.

Annual 4-H youth development enrollment report: 1985 fiscal year. (1985). Washington, DC: United States Department of Agriculture Extension Service.

Boyle, P. G., & Brown, E. J. (1964). Adapting 4-H to urban situations. Journal of Extension, II (1), 29-36.

Engel, J. F., & Blackwell, R. D. (1982). Consumer Behavior (4th ed.). Hinsdale, IL: Dryden Press.

Engel, J. F., Warshaw, M. R., & Kinnear, T. C. (1983). Promotional strategy: Managing the marketing communications process (5th ed.). Homewood, IL: Richard D. Irwin, Inc.

Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior: an introduction to theory and research. Reading, MA: Addison-Wesley.

4-H for youth for America. (1986). (Program Aid-1383). Washington, DC: United States Department of Agriculture Extension Service.

George, W.R., Buchanan, W.W., & Bramblett, L.R. (1976). A marketing management strategy. Journal of Extension, XIV(6), 13-19.

Johnston, M. (1982). Can mass media change behavior? Journal of Extension. XX(3), 10-14.

Lawson, W. M., & Dail, H. M. (1966). Sources of information for farmers. Journal of Extension, II(3), 163-168.

Marsh, S. A., & Knox, A. B. (1966). Information seeking and adult education. Journal of Extension, IV(4), 213-222.

Pride, W. M., & Ferrell, O. C. (1985). Marketing: basic concepts and decisions (4th ed.). Boston: Houghton Mifflin.

Salcedo, R. N. (1974). Blood and gore on the information campaign trail. Journal of Extension, VII(2), 9-19.

Scherer, C. (1980). Does paid promotion pay? Journal of Extension, XVIII(2), 4-8.

Wilson, R. (1963). Rural families and the mass media. Journal of Extension, I(1), 41-46.

3/28/89

THE RELATIONSHIP OF MARKETING ACTIVITIES AND PROMOTIONAL METHODS USED WITH COUNTY 4-H CLUB MEMBERSHIP IN NEW JERSEY AND OHIO

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The competition for the attention of our youth is becoming increasingly fierce and the message and methods increasingly sophisticated. To gain the attention and interest of our youth, programs need to be relevant to their background and experience and presented to the best possible advantage. It becomes critical that those operating elective programs for youth, such as 4-H, look carefully at the promotion and marketing research for models in recruiting and retaining youth membership. The focus of this research addresses effective recruitment, the life blood of 4-H.

The researcher provides an extensive literature review. It is important that the marketing literature be delved into; however, it is unclear why promotion (advertising, personal selling, publicity, and sales promotion) was isolated as one of the facets of marketing (product, price, promotion, and place) to be related to the dependent variable, percent of potential youth served by 4-H clubs. There does not seem to be anything in the theoretical framework that supports this notion. Why not also look at product, price, and place?

What was the rationale for surveying two states? Why were New Jersey and Ohio selected? Were there any difference between the states? Who can you generalize the findings to? The paper contains 9 tables. Are they all really necessary? Might some of them be combined?

It appears that the problem to be addressed by this study, "although 4-H professionals have used promotional methods and marketing activities, they have not known which ones, individually or in combination, have been the most effective in attaining a high level of 4-H membership within counties" was not answered. Nor was Objective 5 "To determine the best predictor(s) of the dependent variable, percent of potential youth served by 4-H clubs." At least a partial list of marketing methods and promotional methods would have helped the reader formulate a more thorough understanding of the dimensions of these two complex variables.

Acceptance of Hypothesis 4, "The greater the percentage of a county's population living in urban areas, the lower its percent of potential youth served by 4-H clubs," points out the need for serious investigation of 4-H programming and marketing to urban youth, given that they make up 50% of the population in the two states studied. However, contrary to the concluding statement "The needs and interests of youth in urbanized areas must be more clearly determined and responded to with appropriate programming efforts" there appears to be no evidence in the study that lays the blame for limited membership at the feet of programming rather than marketing and promotion.

Is there anything in the findings that would help Extension professionals select effective components of marketing and promotion strategies? The conclusions and recommendations are mixed together with no clear indication of which is which. More attention to stating and supporting the conclusions and recommendations for further research might enhance the chances that they will be accepted and/or implemented.

This is an excellent beginning of an area of research that has many facets and interrelationships. Before proceeding with further research, it would be desirable to design a long-range programmatic view of the area that would systematically contribute to the knowledge base and result in specific recommendations for Extension professionals.

FACTORS ASSOCIATED WITH MASTERY OF THE 4-H PROFESSIONAL RESEARCH AND KNOWLEDGE BASE

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As acceptance of the 4-H Professional Research and Knowledge Taxonomy becomes more widely accepted as a basis for organizing staff, research, operations, and programs in extension youth development it is essential that the sources of these skill be identified in order to enhance these significant events. This study begins a line of inquiry that will begin sorting out the complex interrelated factors that contribute to mastery and application of the knowledge within the taxonomy.

The researchers have done a thorough job in conceptualizing, designing, conducting, and reporting the research activity. The brief, tightly written introduction and literature review points out the potential applications of the 4-H Professional Research and Knowledge Base and emphasizes the importance of determining what leads to its mastery. The population, instrument development, and data collection was clearly and fully described and documented. However, in the written report the definition of terms interrupted the flow of the narrative and the researchers might consider placing it in the appendix. Also, it is not clear whether the 4-H Professional Research and Knowledge Taxonomy and 4-H Professional Research and Knowledge Base are synonymous. Base is used in the title, but taxonomy is used elsewhere in the paper. Taxonomy implies an orderly classification of information and base suggests the fundamental parts or foundation. Might it also be database which refers to a collection of information arranged for rapid search and retrieval.

The suggestions to personnel officers of the Cooperative Extension Service in Ohio and the implications for further research are very brief. Some discussion of the "why" and "how" would demonstrate more insight and facilitate application or implementation. The concluding statement that "the 4H PRK Taxonomy as an independent estimate of the knowledge base from which Extension Agents, 4-H draw in their day-to-day efforts appears to be substantiated" requires additional discussion. On what basis is it being substantiated? What is the supporting evidence?

It is research such as this that provides the documentation and builds the firm foundation upon which the 4-H Professional Research and Knowledge Taxonomy can be confidently used as a basis for program development. The researchers are to commended on their fine beginning.

THE RELATIONSHIP BETWEEN SELECTED ANTECEDENT CHARACTERISTICS AND THE PERCEIVED EDUCATIONAL NEEDS OF EXTENSION AGENTS WITH 4-H YOUTH DEVELOPMENT RESPONSIBILITIES

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Determining the changing needs of Extension Agents with 4-H responsibility is critical in selecting and designing professional development programs. However, the introduction does little to convince the reader of its importance and need for study. The researcher should provide sufficient evidence through the literature review and the theoretical framework to support the selection of the antecedent characteristics and formulation of the research objectives.

Throughout the paper the researcher makes several assumptions about the reader's background and experience, e.g., 25 key skills in 4-H youth development, the taxonomy of the professional research and knowledge base of 4-H youth development. Both the 25 key skills and the professional research and knowledge base should be described somewhere in the paper.

On what basis can the statement be made that it is a nationally generalizable study. How and why were the 8 states selected? Additional discussion on the population, sampling, instrumentation, and data collection is recommended. There is insufficient information for the reader to make judgments about the design and methodology of the study.

The paper would benefit from a table or figure that helps the reader organize the information. For example, the descriptive profile of the Extension Agents might be enhanced with a complementary pictorial presentation, allowing the reader to make visual comparisons.

The paper would be enhanced with a conclusions section--so what does all of this mean. The recommendations are practical and insightful, but additional explanation is needed to support them. Are there suggestions for additional research? Suggestions for replication in different settings or studies designed to build on current research would be useful.

I congratulate the researcher for his significant effort to attack a critical problem. I would encourage continued work in this area and explore its relationship to the research of Gerhard and Smith which was reported earlier in this session.

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INTRODUCTION

During 1986 and 1987, the United States Department of Agriculture's Office of Science and Education--Extension Service (ESDA-SE/ES) contracted with Ohio to study the knowledge base of Extension 4-H Youth Development. This study of the 4-H knowledge base has since come to be known as the 4-H Professional Research and Knowledge Taxonomy (4H PRK). In its incipiency the process began by envisioning the utility of an identified knowledge base and a logical and delineated taxonomy about which that base could be configured. The researchers assumed that the final product had to reflect the unique methodologies of Extension 4-H Youth Development practices today but be futuristic in capturing the needs of the profession in the decades to come.

The 4H PRK project has begun to be regarded as a way of organizing staff, research, operations, and programs in Extension youth development departments. Personnel selection officers in Illinois, Michigan, Minnesota, and Nebraska are investigating a selection system for Extension agents working in Youth Development programming based on the Taxonomy. Offices of Extension Personnel Development are using the taxonomy in planning in-service training for Extension professionals. Departments of Agriculture and Extension Education within land-grant universities have also begun to use 4H PRK to develop pre-service curricula that focuses on the youth development educational emphasis of the newly identified knowledge and research base.

However, despite the activity that has resulted with the release of information contained in the document and despite the various competency studies conducted recently (Mississippi Cooperative Extension Service, 1977; Itulya, 1973; Gonzales, 1983; and Wisconsin Cooperative Extension Service, 1985) and the American Institutes of Research Job Analysis of the County Extension Agent (Brumbeck, 1978), no inquiry has been found to have been made into the origins of the skills identified in these studies.

With the more comprehensive 4H PRK work, a need existed to develop instrumentation that could describe a given population of Extension agents, 4-H on their mastery of the knowledge and research base, as well as a consideration of significant events in the pre-service, personal and professional dimensions of Extension agents' lives that contribute to the acquisition of that knowledge base. Previous investigation into the effect of certain majors, courses of study, or academic performance with regards to essential knowledge mastery is void. Unknown also is the impact of previous 4-H membership, length of service as an Extension educator, and county unit administrative responsibilities. Certain factors outside the workplace may also contribute to knowledge mastery, such as being a parent of 4-H age youth, or knowledge gained in other employment or volunteer experiences. What role does personal study play in knowledge acquisition?

PURPOSE AND OBJECTIVES

These concerns about the knowledge base of 4-H youth professionals led to this study (Gerhard, 1988). The goal was to describe Extension agents, 4-H in Ohio regarding their mastery of the 4-H Professional Research and Knowledge Base (4H PRK). Specific research objectives included:

1. To describe Extension agents, 4-H in Ohio regarding fourteen critical events in their academic, professional, and personal lives relating to knowledge acquisition.
2. To describe the same agents regarding mastery of the 4-H Professional Research and Knowledge Base (4H PRK).
3. To determine the degree of association between the mastery scores of 4H PRK, between the fourteen demographic characteristics, and between the mastery scores and the fourteen demographic characteristics.
4. To determine the best predictors of overall mastery of 4H PRK from among the fourteen characteristics.

The fourteen factors were: highest academic degree, type of academic degree, quarter hours of coursework related to 4H PRK, the degree granting institution, grade point average, years as a an Extension educator, years as a 4-H Extension Agent, County Chair status, perceived influence of paid non-Extension work, volunteer, and personal study experiences, number of years a 4-H member, number of children of 4-H age, and gender.

Definition of Terms

4H PRK - (4-H Professional Research and Knowledge Base) A knowledge and research base from which an Extension Educator draws in conducting 4-H Youth Development programs (see Figure 1).

4H PRK Mastery Score - The total number of correct responses on the criterion-referenced 4H PRK Mastery Test. It is composed of the sum of the five domain scores reflecting mastery of Communication, Educational Design, Youth Development, Youth Program Management, and Volunteerism knowledge.

Education Degree - Courses of study that are held by the academic community to deal with learning, instruction, and cognition. This does not include Agricultural Education or Home Economics Education. Specifically mentioned are Elementary or Secondary Education, Education Counseling, and Education Administration.

Extension Agent, 4-H - An Extension agent having either full-time or proportioned salaried time given to youth development continuing education programs in Ohio.

Extension Educator or Extension Professional - A county-based faculty member possessing at least a master's degree who leads continuing education programs for a Cooperative Extension Service.

Social Science Degree - Courses of study that are held by the academic community to involve the interaction of human beings in social units. This does not include education degrees.

Technical Science Degree - Courses of study that are held by the academic community as being fundamental. Specifically mentioned are Animal Science, Clothing and Textiles, Econometrics, Agronomy, Food and Nutrition, Family Resource Management, and Biology.

Volunteerism - The study and consideration of human resources committed to a particular effort or enterprise without salary, compulsion, or coercion.

Youth Development - Gradual advance or growth through progressive changes following early childhood and continuing to adulthood. In human beings this growth is often regular, uniform, or unfolding.

Youth Program Management - The process of acquiring and redistributing resources for the implementation, maintenance, and perpetuation of a total 4-H youth development effort.

PROCEDURES

The nature of this study was ex post factor and descriptive-correlational in nature. The study was designed to gather data concerning the nature and strength of relationships between variables.

Subject Selection

As of April 1, 1988, the Ohio Cooperative Extension Service employed 56 County Extension Agents, 4-H and 10 County Extension Agents with titles that indicated responsibility for 4-H Youth Development Programs and at least one other Extension program area. Because of the relatively small size of the population and easy access to employment and academic records, data were collected from a census of the population.

Instrumentation

Three different instruments were developed to collect the data. Criterion-referenced multiple choice items, Likert-type attitudinal scaling, and direct-response items were created.

A subject profile form was produced to glean information from a confidential review of personnel files regarding academic information (e.g., degrees, grade point average, coursework) and other demographic information regarding employment with the Extension Service.

The population completed a five-item background information sheet that included such demographic information as previous 4-H participation, ages of children for whom they had provided care, and perceived influence of work, volunteer, and personal study on knowledge acquisition in each domain of the 4h PRK taxonomy. The perceived influence of work, volunteer, and personal study on knowledge acquisition was marked on a six-point Likert-type attitudinal scale (1=nothing to 5=everything and 7=Not Applicable).

The dependent variable, 4H PRK Mastery Score, was measured by the score on a 100-item multiple choice achievement test. These items were generated by the researchers using National Teachers Examinations, Graduate Record Examinations (GRE), subject Area Exams, Civil Service Examinations, and mid-term and final examinations from college courses as guides. Questions were targeted at a bachelor's degree knowledge level within each of the five domains (Communication, Educational Design, Youth Development, Program Management, and Volunteerism) (see Figure 1). Four multiple choice items each were included for 21 of the sub-fields. For the sub-fields of "Marketing and Public Relations" and "Needs Assessment and Program Redirection," eight items each were included.

The data collection instruments were constructed using modified specifications set forth by Dillman (1978). The achievement type 4H PRK Mastery Test responses were recorded on an optical scan answer sheet.

Conditions of Testing

Content validity was established by initially having 200 items in the Item Pool which was submitted to a panel of experts for review for working, readability, and content. The panel was asked to review each item for content validity using a Technical Review Form for Multiple-Choice Test Items (Hambleton, 1980).

The instruments were pilot tested with 20 Extension agents, 4-H who held the Master's degree. This pilot sample represented a cross-section of academic, career, and personal histories from all four Extension regions. The pilot test resulted in the final use of 100 items on the final instrument. An acceptable value for Kuder-Richardson 20 coefficients was set a priori at .50 based on information garnered from work by Nunnally (1967). (See Table 1 for a summary of reliability analyses from both the pilot and final study.)

A total of 66 agents were sent a Background Information Sheet, a Mastery Test, and Optical Scan Answer Form. The total accepting sample as of the final deadline was comprised of 41 agents or 62.0 percent of the population. Non-response error was controlled by comparing the responses of early respondents to those of late respondents (Miller and Smith, 1983). A review of the data after dividing respondents into three groups, early, average, and late, using an ANOVA yielded no significant differences between early and late respondents of the dependent variable as well as the independent variables. A document review also yielded no dissimilarities between respondents and non-respondents on characteristics such as a gender, types of degrees, major areas of study, etc.

Data Analysis

Descriptive statistics were used to organize and summarize the data collected on the independent variables. Descriptive statistics were also used to present the population of Extension Agents, 4-H in Ohio in regards to their mastery of the 4-H Professional Research and Knowledge Base, the dependent variable.

Appropriate correlation coefficients were calculated for the dependent variables, between the mastery score independent variables and between the mastery scores and the dependent variables. Analysis of variance (ANOVA) was used to compare mastery scores and nominal or categorical variables. ANOVA was also used to compare appropriate variables such as performance on the five 4H PRK domain mastery scores, etc.

Stepwise procedures of multiple regression/correlational analysis were used to determine the best predictors of overall mastery of the 4-H Professional Research and Knowledge Base from among the fourteen demographic characteristics studied.

An a priori decision regarding F-test values was set with F to Enter equal to 4.000 and F to Remove equal to 3.996. Inferences to the population from the accepting sample were made at an alpha level of .05.

RESULTS

This section includes a description of the total sample of 4-H youth professionals based on the objectives previously named.

Description of the Total Sample

As mentioned previously, the study included all Extension Agents, 4-H in Ohio. Data were collected from a census of the population, namely 66 County Extension Agents, 4-H. The total accepting sample as of the final deadline was 42. Of these responses, one was determined unusable, for a final response rate of 62% or 41 respondents.

A comparison of early and late respondents as already indicated yielded no significant differences in demographic characteristics or in responses to the perceptual questions or the final performance on the 4H PRK Mastery Test.

Description of the Fourteen Critical Characteristics

Highest academic degree earned could not be analyzed since all respondents held a Master's Degree. In the area of post-secondary degrees, Extension Agents, 4-H in Ohio were found to have earned most of their degrees in either technical subject matter disciplines or agricultural education (47%). Technical degrees predominate undergraduate majors and agricultural education is the most frequent Master's program.

Findings regarding the background of academic preparation by the agents included more quarter hours of formal educational coursework than any other domain of the taxonomy. Communication and Human Development topics followed next in frequency. As a group, the agents had an average of only four hours of formal Extension Education coursework. The agents had individually completed 69 quarter hours of coursework in the domains of 4H PRK. Fifty-five percent of the students earned their degrees from The Ohio State University. Males tended to major in the social sciences and female agents in technical disciplines. The agents had earned a cumulative grade point average reflecting a solid "B" average for their total college performance. Agents on the average have been employed ten years both in Extension and as a 4-H agent. Years of service also was noted as an indication of age, with agents of longer tenure being more likely to be male, be a county chair, and have more children of 4-H age than their more recently hired co-workers. The responding sample, however, was predominately female. On an average, agents had parented .66 children with no one raising more than four of 4-H age.

The Extension Agents, 4-H identified previous paid non-Extension work as more than somewhat influential on their mastery of their professional knowledge base. These work experiences were perceived to contribute to the acquisition of communication, education, and human development knowledge.

Experiences as a volunteer contribute more than "somewhat" to the agents' knowledge of communication, human development, and volunteerism. Personal study assists mastery in the areas of human development and education more so than any of the non-formal learning sources investigated.

Mastery of the 4-H Professional Research and Knowledge Base (4H PRK)

Agents' performance ranged from 41 to 75 percent correct with an average score of almost 60 percent correct. The 4H PRK Mastery Test did distinguish between varying levels of mastery on the entire taxonomy as well as the individual sub-tests. Table 2 indicates the percent correct for each of the five sub-tests measuring knowledge mastery for Extension Agents, 4-H in Ohio. Note that the Educational Design domain was lowest with an average of 53 percent correct responses. The knowledge field wherein the agents displayed the greatest proficiency was in volunteerism with an overall average performance of 71 percent correct.

Measures of Association

The investigation found, as expected, substantial and very strong correlations between the individual domain scores and the 4H PRK Mastery Score. No correlation greater than "moderate" existed between any two of the domains individually. This tends to validate the relative independence of each measure, as was hypothesized by the original 4H PRK research. The attitudinal sub-scales that combined to form the overall perceived influence data were all found as expected to be either substantially or very strongly correlated with overall perceptual scores. No independent variables were found to correlate more than moderately with the dependent 4H PRK Mastery Scores. Between themselves, however, only two substantial negative correlations were identified between grade point average and time of service. This may reflect a tendency toward grade inflation in the academic system.

4H PRK Mastery performance was found to be independent of the types of degrees earned, the degree conferring institution, county chair status, gender, and the perceived influence of the three non-formal learning sources of previous work, volunteering and personal study. Major correlations between hours of specific 4H PRK related coursework completed and performance on the Mastery Test were not evident. Agents did, however, complete significantly more hours of education and communication coursework than for any of the other domains.

Stepwise Regression

The lack of clear, strong associations between the independent and dependent variables foreshadowed the equation predicted by the stepwise multiple regression procedure. Through the stepwise process only cumulative post-secondary grade point average loaded significantly on the 4H PRK Mastery Score (Table 3). GPA accounted for 11 percent of the total variance in 4H PRK. Eighty-nine percent of the variance is yet unidentified.

CONCLUSIONS

The data suggested two very basic implications to pre-service education and staff selection criteria. They are that:

1. specified hours, specific curricula, appropriate life-long learning activities by themselves are not predictors of cognition and mastery for the Extension youth development professional.

2. grade point average came the closest to measuring the quality of the learner, the 4-H agent, than any of the other independent variables. The better students may have outperformed their co-workers on 4H PRK because of qualitative differences in the affective component of scholarship that neither formal education nor this study has identified.

The data suggested to the personnel officers of the Cooperative Extension Service in Ohio that:

1. the quality of pre-service work may have more importance than previously thought.
2. there are additional variables, some of which may be personalogic, tied to the personality, that may assist in 4H PRK Mastery performance regardless of a prescribed curricula.
3. no specific degree type or curriculum appears to be any worse or better than another.
4. the 4H PRK Taxonomy as an independent estimate of the knowledge base from which Extension Agents, 4-H draw in their day-to-day efforts appears to be substantiated.

Implications for Further Research

Because of the exploratory nature of this study, more questions than concrete answers were produced. The following paths of inquiry are suggested for consideration.

1. Additional replication of the instrument, with additional items and larger and more diverse audiences, would strengthen reliability and validity, as well as utility to the youth development profession.
2. Additional replication of this study to significantly increase the number of cases upon which to regress the independent variables.
3. Application of the instrument to new, 4h PRK specific pre-service curricula to obtain a clearer understanding of their effectiveness.
4. Additional exploration of 4H PRK Mastery on diverse personalogical and neurophysiological variables as predictors of knowledge base mastery.
5. Correlational studies to compare performance (skill levels) with 4H PRK mastery performance.

REFERENCES

Brumbeck, G., Hahn, C.Y. Edwards, D. (1978). Reaching and teaching people: A nationwide job analysis of county Extension agent's work. Washington, DC: American Institutes for Research.

Dillman, D.A. (1978). Mail and telephone surveys: The total design method. New York: John Wiley & Sons.

Gerhard, G.W. (1988). Factors associated with mastery of the 4-H professional research and knowledge base by Extension agents, 4-H in Ohio. Unpublished Ph.D. dissertation, The Ohio State University Columbus.

Gonzales, I.M. (1983) Competency-based training programs for extension personnel. ECOP National Staff Development Conference. St. Louis, MO: Extension Committee on Organization and Policy.

Hambleton, R.K., Swaminathan, H., Algina, J., & Coulson, D.B. (1978). Criterion-referenced testing and measurement: A review of technical issues and development. Reviews of Educational Research. 48, 1-47.

Itulya, F.M. (1973). Professional competencies essential for beginning Extension agents in Arizona. Unpublished master's thesis, University of Arizona, Tucson.

Miller, L.E. & Smith, K.L. (1983). Handling non-response issues. Journal of Extension, 21(5), 45-50.

Mississippi Cooperative Extension Service & the Department of Agricultural Education. (1987). A profile of program development efforts. Starkville: Mississippi State University.

Nunnally, J.C. (1967). Psychometric theory. New York: McGraw-Hill.

Wisconsin Cooperative Extension Service. (1985). Competencies necessary for conducting Extension education. Madison, WI: University of Wisconsin-Extension.

Figure 1

Domain - COMMUNICATION

Sub-fields - Interpersonal Skills
Group Processes
Written Skills
Listening/Reading Skills
Information Technology

Domain - EDUCATIONAL DESIGN

Sub-fields - Institutional Framework
Program Design
Program Implementation
Needs Assessment & Program Redirection

Domain - YOUTH DEVELOPMENT

Sub-fields - Psychological Development
Physical Development
Social-Moral Development
Cognitive Development
Basic Developmental Concepts

Domain - PROGRAM MANAGEMENT

Sub-fields - General Knowledge & Planning
Organizational Theory and Design
Resource Allocation
Marketing & Public Relations

Domain - VOLUNTEERISM

Sub-fields - Staffing
Recruitment
Training and Development
Supervision
Leadership

Table 1

Summary of Reliability Analysis for 4H PRK Mastery Test

Coefficient	Number of Subjects	Number of Items	Value
Kuder-Richardson 20 (Pilot)	18	200	0.876
Kuder Richardson 20 (4H PRK Mastery Test)	41	100	0.731

Table 2

Mean, Standard Deviation, Minimum, Maximum, and Range of Scores on the 4H PRK Mastery Test by Extension Agents, 4-H in Ohio

n = 41

Domain	Mean	Std Dev	Minimum	Maximum	Range
Communication (percent)	11.8 (59.0)	2.7	1	20	19
Educational Design (percent)	10.6 (53.0)	2.5	5	15	10
Youth Development (percent)	11.7 (58.5)	2.8	6	17	11
Youth Program Management (percent)	11.6 (58.0)	2.4	6	16	10
Volunteerism (percent)	14.1 (70.5)	2.2	9	18	9
4H PRK Mastery (percent)	59.8 (59.8)	8.4	41	75	34

Table 3

Stepwise Multiple Regression of the Mean Importance of 4H PRK Mastery on 13 Critical Factors

Variables in Equation:
Intercept
Cumulative Post-Secondary Grade Point Average

R	R Squared	Adjusted R Squared	Standard Error
.335	.112	.09	8.037

Parameter	Value	Std Error	Std Value	F to Remove
Intercept	35.648			
GPA	7.843	3.529	.335	4.939

Analysis of Variance Table

Source	df	Sum Squares	Mean Squares	F-Test
Regression	1	319.065	319.064	4.939
Residual	39	2519.374	64.599	
Total	40	2838.439		

F to Enter = 4.000 F to Remove = 3.966 Number of Steps = 1
Variables Entered = 1 Variables Forced = 0
SS[e(i)-e(i-1)] = 5205.82 $e \geq 0$ = 21 $e > 0$ = 20

THE RELATIONSHIP BETWEEN SELECTED ANTECEDENT CHARACTERISTICS AND THE PERCEIVED EDUCATIONAL NEEDS OF EXTENSION AGENTS WITH 4-H YOUTH DEVELOPMENT RESPONSIBILITIES

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INTRODUCTION

Over the years, the Cooperative Extension Service has utilized a broad array of staffing patterns to provide professional leadership to 4-H youth development programs on the county level. In some counties, a full-time 4-H professional gives leadership to the program. In other counties, agriculture and home economics agents give leadership to 4-H in addition to their program area of primary responsibility. These other program areas may include agriculture, home economics, community development, or forestry.

According to the Personnel Management Services Division of the United States Department of Agriculture - Extension Service, only 35 percent of all county extension agents with responsibility to 4-H devote 100 percent of their time to 4-H youth development programming (USDA-ES, 1987). The remaining 65 percent devote a portion of their time to 4-H while having additional responsibilities to another program area.

With a large percentage of agents having a primary area of expertise outside the bounds of the knowledge base of 4-H youth development, providing a single comprehensive staff development program for all agents contributing time to 4-H was difficult. Often the particular needs of agents with dual or multiple assignments were overlooked.

A central premise of the study, supported by the review of literature, was that the more time an agent devoted to 4-H, the more an agent would have attitudinal orientations and staff development needs similar to that of a full-time 4-H professional (Schein, 1978).

Literature in the fields of vocational choice, human resource development, and needs assessment suggested that agents devoting time to 4-H may also vary on several other characteristics in addition to percentage of time devoted to 4-H and the program area to which they devoted the greatest amount of time.

However, little was known about the characteristics of the population of extension agents who devote time to 4-H. Consequently, studies had not been conducted to examine relationships that may exist between these characteristics and educational need in the key knowledge base areas of 4-H youth development education.

PURPOSE AND OBJECTIVES

The purpose of the study was to develop a nationally generalizable descriptive profile of professional extension agents who devote time to 4-H and to determine the relationships between selected antecedent characteristics and the dependent variables, perceived importance of 25 key skills in 4-H youth development work and in-service education needed in those key areas. Antecedent characteristics examined included highest degree received, academic major in the highest degree, length of service, role perception, percent of professional time devoted to 4-H, program area of primary assignment, years of 4-H membership, and manner in which the 4-H responsibility was received.

The following set of eight research objectives was formulated to guide work on the study:

1. To describe, by primary assignment, the population of Extension agents with 4-H youth development responsibilities.

2. To describe, across levels of the antecedent characteristics, the population of Extension agents with youth development responsibilities on perceived relative importance of the 25 key skills in youth development.

3. To describe, across levels of the antecedent characteristics, the population of Extension agents with 4-H youth development responsibilities on perceived educational need in 25 key skills in youth development.

4. To determine the degree of similarity in the rank orders of the relative importance of 25 key skills in youth development education across levels of the antecedent characteristics.

5. To determine the degree of similarity in the rank orders of perceived in-service education required in 25 key skill areas of 4-H youth development education across levels of the antecedent characteristics.

6. To identify, by primary assignment, the preferred methods and strategies for delivery of 4-H in-service education programs.

7. To explain the contribution of each of the antecedent characteristics to variance in the perceived overall importance of 25 key skills in 4-H youth development.

8. To explain the contribution of each of the antecedent characteristics to variance in the perceived overall educational need in 25 key skills in 4-H youth development.

PROCEDURE

The study was descriptive-correlational in nature. Multi-stage random sampling was used to select 371 county extension agents from eight states to participate in the study. A mail questionnaire was used to collect data about the population studied. Content validity of the questionnaire was established through the use of a panel of experts in the field of 4-H youth development. The questionnaire was pilot tested in the state of Kentucky to establish the reliability of the data produced.

The agents were asked to rate on a seven-point Likert type scale, the perceived importance and ability to perform 25 key skills in 4-H youth development work. A discrepancy-based needs assessment methodology developed by Borich (1980) was used to calculate educational need in the key areas.

Descriptive statistics were used to organize and summarize the data. Kendall's Coefficients of Concordance were used to determine the degree of similarity in the rank-orders of areas of educational need as well as relative importance of the 25 skills.

Hierarchical procedures of multiple linear regression were used to determine the proportion of variance in the dependent variables attributable to variance in the eight antecedent characteristics. Selected interactions were also explored. Inferences to the poulation were made at an alpha level of .05.

FINDINGS

Of the 264 usable questionnaires returned, 81.4 percent (215) reported devoting at least some professional time to 4-H youth development programming. This figure includes both agents who are assigned 4-H responsibilities and those who voluntarily contribute time to 4-H programming.

Of the 215 agents devoting professional time to 4-H, 32 percent devoted the majority of their time to 4-H programming. Thirty-six percent devoted the majority of their time to agriculture and 28 percent devoted the majority of their time to home economics. The remainder devoted the majority of their time to either community development or forestry. Agriculture agents devoting time to 4-H youth development were the most highly educated agents with 68.3 percent having completed degrees above the bachelor's level. Nearly 62 percent of home economics agents and 52.8 percent of 4-H agents had completed degrees beyond the bachelor's level.

Agriculture and home economics agents who devoted time to 4-H were found to be more homogenous than 4-H agents in terms of academic major in the highest degree. Ninety-five percent of agriculture agents received their highest degree in either agriculture or education and 93 percent of home economics agents received their highest degree in either home economics or education. Exactly 50 percent of 4-H agents received their highest degree in education.

Community and natural resource development agents had an average tenure as an agent of almost 15 years. Agriculture agents had a mean tenure of almost 14 years while home economics agents and 4-H agents had 12.8 and 8.8 years of tenure, respectively.

Over 90 percent of 4-H agents viewed their role in 4-H programming as either the manager of the overall 4-H program in their county (67.1 percent) or to design, implement, and evaluate educational programs for adults and youth (24.3 percent). Agriculture and home economics agents tended to view their role in 4-H programming as a technical consultant to volunteers and youth in their particular area of expertise.

Almost 76 percent of agriculture agents and 75 percent of home economics agents who devote professional time to 4-H devoted less than 25 percent of their time to 4-H. 4-H agents devoted an average of 85.6 percent of their time to 4-H. Most importantly, over 69.7 percent of the agents devoting time to 4-H devoted less than 50 percent of their time to 4-H.

Nearly 60 percent of all agents devoting professional time to 4-H youth development programming were 4-H club members as youth. Just over 68 percent of the home economics, 61.4 percent of the 4-H agents and 53.1 percent of the agriculture agents reported between one and twelve years as a 4-H member.

Few agents were assigned 4-H responsibilities as a result of downsizing or attrition. Only 5.1 percent of all agents devoting professional time to 4-H were assigned the responsibility after working first in another program area. Fourteen percent took on 4-H work by choice and 77.7 percent had always had 4-H responsibilities.

When mean importance scores for each of the 25 key skill areas of youth development were calculated across all 215 respondents comprising the data sample, the relative importance of each skill was ascertained by assigning an importance ranking to each item.

Ranking as most important, across all respondents was being able to conduct training sessions for adult volunteers (mean = 5.32). Ranking second and third in overall importance were being able to use interpersonal communication skills (mean = 5.25) and to recruit 4-H volunteers (mean = 5.22). Being able to develop programs that meet the needs of teens (mean = 5.15) and communicating program impact to key decision-makers (mean = 5.12) ranked fourth and fifth, respectively. Conversely, ranking lowest in importance were dealing with legal concerns of volunteers (25th, mean =

3.72) and supervising paraprofessionals or program assistants (24th, mean = 3.79). The grand mean for importance for all 25 items was 4.73, signifying very great importance of the overall set of skills.

Importance scores for the items were subsequently broken down by levels or values of the antecedent characteristics. Rankings of the importance for each particular sub-group were developed. When Kendall's Coefficients of Concordance were calculated to determine the degree of similarity in the rank orders by rater groups, significant agreement in the rankings of importance was found to exist for all categorization schemes.

Greatest educational need was found to exist in the area of recruiting 4-H volunteers (mean = 7.68). Implementing a marketing plan for 4-H (mean = 6.23) and developing educational programs to meet the needs of teens (mean = 6.23) ranked second (tie). Communicating program impact to key decision makers (mean = 6.10) and learning to conduct a needs assessment (mean = 5.48) ranked fourth and fifth respectively. Conversely, areas in which lowest educational need existed were supervising paraprofessionals or prgram assistants (25th, mean = 1.07) and using a variety of teaching techniques appropriate for a given audience (24th, mean = 2.24).

Educational need scores for the 25 items were subsequently broken down by levels or values of the antecedent characteristics. Rankings of the importance for each particular sub-group were developed. Again, Kendall's Coefficients of Concordance were calculated to determine the similarity in the rankings of educational need in each of the 25 key skills. Significant agreement in the rank orders of educational need in the 25 areas was found to exist for all categorization schemes.

Academic major in the highest degree, program area of primary responsibility, and a disordinal interaction between the amount of professional time devoted to 4-H and program area of primary responsibility accounted for significant in crements in explained variance in perceptions of overall importance of 25 key skills.

Education and home economics majors tended to view the importance of the key skills higher than did agents with other educational backgrounds. Similarly 4-H agents tended to view the overall importance of the key skills higher than agents who had primary responsibility to another program area.

Only program area of primary responsibility accounted for a significant proportion of variance in educational in-service need.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this research, the following recommendations were made.

1. The taxonomy of the professional research and knowledge base of 4-H youth development (Lifer and Gerhard, 1987) should be considered a

valid and practical document guiding the 4-H youth development profession.

2. Undergraduate and graduate curricula should be developed, based on the taxonomy of the knowledge base of 4-H youth development, for students aspiring to professional 4-H positions.

3. Extension should hire prospective 4-H professionals on the basis of how well their preservice education had prepared them in the knowledge base areas of communication, educational design, youth development, youth program management, and volunteerism.

4. Although faced with possible budget shortfalls and downsizing, Extension should continue to ensure that 4-H programs remain under the supervision of a full-time 4-H agent. While it may not be possible to maintain a 4-H agent in every county, multi-county staffing would possibly be preferable to agents with split assignments.

5. Staff development programs for current professionals should be developed in accordance with the particular needs of agents based on their program area of primary responsibility. In other words, separate educational programs should be developed for 4-H agents, agriculture agents doing 4-H work, and home economics agents doing 4-H work.

SELECTED REFERENCES

Borich, G.D. (1980) A needs assessment model for conducting follow-up studies. Journal of Teacher Education, 21(3), 39-42.

Lifer, C.W. & Gerhard, G.W. (1987). A taxonomy of the knowledge base of 4-H youth development: Final report. Columbus, OH: The Ohio State University.

Rennekamp, R. A. (1987). The relationship between selected antecedent characteristics and the perceived educational needs of extension agents with 4-H youth development responsibilities. Doctoral dissertation, The Ohio State University, Columbus.

Schein, E.H. (1978). Career dynamics: matching individual and organizational needs. Reading, MA: Addison-Wesley Publishing Company, pp. 124-146.

United States Department of Agriculture - Extension Service, Personnel and Management Services Division (1987). Semi-annual Salary Analyses of Cooperative Extension Service Positions. Washington, DC: USDA.

APPLIED RESEARCH SESSION A

May 17, 1989

EVALUATION ATTITUDES AND PRACTICES OF OHIO COOPERATIVE EXTENSION SERVICE COUNTY LEVEL HOME ECONOMISTS: A RESEARCH SUMMARY

by

LAVERNE BLOUNT AND JOAN GRITZMACHER

MARKETING IOWA CRAFTS: AN APPLIED RESEARCH PROJECT

by

RAE REILLY, JANEANN STOUT, AND MARY LITTRELL

HOME ECONOMICS PLANNING

by

JAN SCHOLL

EVALUATION ATTITUDES AND PRACTICES OF OHIO COOPERATIVE EXTENSION SERVICE COUNTY LEVEL HOME ECONOMISTS: A RESEARCH SUMMARY

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INTRODUCTION

Administrators, legislators, and taxpayers are demanding data to substantiate the worth of programs which they support. These demands increased the need for organizations to provide substantial data to support the value of their programming efforts as they compete for funds. These data can only be generated through the use of effective and systematic evaluation procedures. Professional evaluators have emphasized the growing need for using effective evaluative procedures with all organizations, especially those which provide some form of educational programming or other human service (Andrews, 1983; Rossi, 1979; Steele, 1976; Suchman, 1967; Tuckman, 1979).

DEFINITIONS

The following terms were used in some aspects of the study. The researcher developed the following operational definitions in an effort to clarify the meaning of these terms within this study.

CHAIN OF EVENTS HIERARCHY

Seven broad categories of criteria suggested by Claude Bennett for formally evaluating the effectiveness of Extension Service programs. These categories are arranged according to seven levels in order of rank. The first level, inputs into Extension programs, 2 -activities, 3 - people involvement, 4 - reactions, 5 - knowledge, attitudes, skills and aspiration change (KASA), 6 - practice change and 7 - end results.

DISCREPANCY

Difference which exists between specified items.

EXTERNAL ACCOUNTABILITY

The state of being responsible to interested persons outside the Cooperative Extension Service. This responsibility includes providing evidence to support (1) the expenditure of funds and/or other resources, and (2) other activities and/or behavior of the organization and its members.

INTERNAL ACCOUNTABILITY

The state of being responsible to persons within the Cooperative Extension Service. This responsibility includes providing evidence to support (1) the expenditure of funds and/or other resources and (2) other activities or behavior of the organization and its members.

KNOWLEDGE DISCREPANCY

The difference which exists between the importance mean and the knowledge mean multiplied by the importance mean.

LAY EVALUATOR

A person in a position with the responsibility of conducting evaluation activities. That person may have limited training in evaluation procedures.

OCES COUNTY LEVEL HOME ECONOMISTS

Persons employed by the Ohio Cooperative Extension Service (OCES) to conduct home economics programming within one of the 88 counties in the state of Ohio.

PERCEIVED IMPORTANCE

The numerical value county level home economists place on an item in the evaluation procedure by rating that item on a scale of 1 to 5 with 1 being the lowest priority and 5 the highest.

PERCEIVED KNOWLEDGE

The amount of information which county level home economists feel they possess about an identified item by rating the item on a scale of 1 to 5 with 1 being the lowest amount of information and 5 the highest.

PERCEIVED SKILL

How well OCES county level home economists feel they can perform activities related to the desired outcome of an evaluation component by rating their ability on a scale of 1 to 5 with 1 being the lowest ability and 5 the highest.

SKILL DISCREPANCY

The difference which exists between the importance mean and the skill mean multiplied by the importance mean.

PROGRAM IMPROVEMENT

Increased value and/or condition of an event or activity conducted by the Cooperative Extension Service; making the event or activity better than it was previously.

PURPOSE AND OBJECTIVES

The Cooperative Extension Service provides educational programming. Therefore, the purposes of this descriptive, correlational and comparative study were (1) to determine if the Ohio Cooperative Extension Service (OCES) county level home economists' attitudes about evaluation were similar to their evaluation practices and (2) to assess the home economists' needs for training in the area of evaluation.

Research questions were developed to give direction for the study. The objectives for the research questions were:

1. To determine relationships between the OCES county level home economists' perceptions of the importance of reasons for evaluating and their knowledge/skill discrepancies based on academic title, academic degree, length of service, and county population size.

2. To determine relationships between the OCES county level home economists perceptions of the importance of components of objectives and their knowledge/skill discrepancies based on academic title, academic degree, length of service, and county population size.

3. To determine relationships between the OCES county level home economists perceptions of the importance of evaluation techniques and their knowledge/skill discrepancies based on academic title, academic degree, length of service, and county population size.

4. To determine relationships between the OCES county level home economists perceptions of the importance of levels of evidence of program impact and their knowledge/skill discrepancies based on academic title, academic degree, length of service, and county population size.

PROCEDURES

The population in this study consisted of OCES county level home economist assigned the responsibility of adult home economics programming, excluding the Expanded Food and Nutrition Education Program (EFNEP). The selected home economists were placed into three categories: (1) County Chairperson, (2) County Extension Agent - Home Economics, and (3) Assistant County Extension Agent - Home Economics. County Extension Agents - Home Economics were randomly selected to participate in the study. There were only nine county chairpersons and three Assistant County Agents - Home Economics, therefore, they were all included in the sample. This process resulted in a total sample of 49 subjects.

A questionnaire was developed to collect data directly from the 49 selected county level home economists. This questionnaire contained nine major areas of questioning: (1) Reasons for Evaluation, (2) Components of Objectives, (3) Evaluation Techniques, (4) Seven Levels of Program Impact, (5) OCES Title, (6) Degrees Held, (7) Discipline in which Degrees are Held, (8) Length of Service, and (9) County Population. The needs assessment model developed by Borich (1980) was used as a guide to develop the questionnaire used in this study.

A checklist was also developed and used by examiners selected to collect data from the annual reports of the home economists included in the study. The four areas of questioning on the checklist were developed to coincide with the first four areas of the questionnaire used to survey the county level home economists. These questions were designed to solicit a nominal response of either yes or no rather than a numerical rating as requested on the questionnaire.

Data analysis included the use of Friedman's Two-Way ANOVA, Kendall Tau Correlation procedure, frequencies, means, and percentages. The Friedman's Two-Way Analysis Of

Variance procedure was to analyze data collected in sections 1 through 4 of the questionnaire. Kendall Tau Correlation procedure was used to determine associations between variables. Means were calculated for each of the rating scales in sections 1 through four of the questionnaire. Frequencies of questionnaire responses were calculated for all research questions on the questionnaire and checklist. Percent of response to each item on the questionnaire and checklist was also calculated.

RESULTS

Relationships between the home economists' importance perceptions and both their knowledge discrepancy and skill discrepancy were statistically significant at $p = .01$ or less for all five identified reasons for evaluating. However, the only reason for evaluating practiced by at least 50% of the sample was "to revise and improve existing programs". Examination of the data related to the home economists' attitudes about components of objectives revealed three statistically significant findings at $p = .01$ or less. Fifty - two percent or more of the home economists practiced using three of the identified components of objectives. The home economists were found to have very limited knowledge about the 27 evaluation techniques recommended for use in the OCES program evaluation process. However, they were evaluating by using some of the evaluation techniques with which they were familiar. Significant relationships were found to exist between the home economists' importance perceptions and both their knowledge and skill discrepancy scores at the three highest levels of evidence of program impact.

CONCLUSIONS

The results of this study provided indicators that the Ohio Cooperative Extension Service county level home economists perceived program evaluation as being important and they did evaluate. The extent of the home economists' evaluation efforts was limited by the amount of knowledge and skills they possessed. The data in this study indicate they needed additional training to help them gain knowledge and skills related to the four categories of evaluation components identified in the study.

Some changes were made in the evaluation procedures used by the Ohio Cooperative Extension Service prior to the completion of this study. Therefore, some aspects of this study may no longer be applicable, especially those concerning **Components of Objectives**. OCES began using the "key objectives" evaluation concept prior to the completion of this study. This concept deviates from the components of objectives theory identified in this study.

The Borich Needs Assessment Model (Borich, 1980) is a very useful instrument. Extension personnel trainers can use this model to help them identify various training needs. The results obtained by using the model should be carefully examined prior to implementing training. This model enables one to calculate discrepancy scores identifying needs for training. However, use of the Kendall Tau Correlation statistic to analyze results obtained by using the model identifies the statistical significance of needs.

Priorities for training can be established based on the level of statistical significance of the Kendall Tau Correlation coefficients obtained by analyzing the results of the data from the Borich Needs Assessment Model. Those identified needs with a statistically significant coefficient of the greatest value should be considered as first priority training needs.

The use of self reported data in the "Individual Report of Results of Program Accomplishments and Progress" can be useful in the evaluation process. However, it is important that the evaluators of these reports are knowledgeable about the evaluation techniques and other evaluation data which are requested in reports. This study did not find the evaluators of the "Individual Report of Results of Program Accomplishments and Progress" to be either consistent or always accurate in reporting OCES home economists' evaluation practices.

RECOMMENDATIONS

As a result of this study, it is recommended that the The Ohio Cooperative Extension Service consider:

1. A study of the OCES county level home economists' perceptions of the importance of reasons for evaluating, components of objectives, evaluation techniques, and levels of evidence of program impact to determine why relationships identified in this study exist.

2. Replicating this study with other county level personnel involved in the OCES evaluation process.

3. Replicating this study using Extension Service county level personnel in other states.

4. A study to determine if users of evaluation data understand the evaluation techniques used to collect the data.

5. Providing training for OCES county level home economists which will help them gain knowledge and skills for:

   a. evaluating to produce information for accountability reporting both internally and externally; assist in all administrative decision making; revise and improve existing programs; and develop new programs.

   b. identifying specific criteria to determine extent of behavioral change, identifying conditions under which behavioral change is expected to occur, and identifying expected behavioral change.

   c. using the 27 identified evaluation techniques.

   d. evaluating at the reactions, end results, KASA, and practice levels of evidence of program impact.

REFERENCES

Allport, G. W. Attitudes. (1935). In C. Murchison (Ed.), A Handbook of Social Psychology. Mass.: Clarke University Press.

Andrews, Mary. (1983). Journal of Extension

Attkisson, C. C., Hargreaves, W. A., & Horowitz, M. J. (1978). Evaluation of Human Service Programs. New York: Academic Press.

Barrick, R. K., Ladewig, H. W., & Hedges, L. E. (1983, Spring). Development of a Systematic Approach to Identifying Technical Inservice Needs of Teachers. The Journal of the American Association of Teacher Educators in Agriculture, 24, 13 - 19.

Bennett, C. F. (1977). Analyzing Impacts of Extension Programs (Rev. ed.). Washington, D. C.: U. S. Dept. of Agriculture.

Borich, G. D.(1980). Needs Assessment Model for Conducting Follow- Up Studies. Journal of Teacher Education, 31, 39-46.

Elliott, E. (1980, Fall). "Another Look at Program Evaluation" The NAEHA Reporter. 16-17.

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: an Introduction to Theory and Research. New York: John Wiley & Sons.

Froke, B. (1980, June). Workbook for Conducting Program Evaluation by County and State Extension Staff. South Dakota: South Dakota State University.

Frutchey, E. P. (1973). Evaluation--what it is. In D. Byrn (Ed.) Evaluation in Extension. Kansas: H. M. Ives & Sons, Inc.

Gay, R. L. (1980). Educational Evaluation and Measurement: Competencies for Knowledge and Application. Ohio: Charles E. Merrill Publishers.

Hildreth, R. J. (1976). Preparing for Tomorrow. In M. A. Anderson & C. A. Vines (eds.), Heritage Horizons: Extension's Commitment to People. Wisconsin: Journal of Extension, Madison, Wisconsin.

McKenna, C. (1981). "Making Evaluation Manageable". Journal of Extension, 9-11.

Pigg, . (1980). Journal of Extension.

Raudabaugh, J. N. (1973, May 3). Evaluation of Extension Programs. Presentation at the Annual Meeting of the Alabama Association of Extension Home Economists, Scottsboro, Alabama.

Remmers, H. H., Gage, N. L., & Rummel, J. F. (1960). A Practical Introduction to Measurement and Evaluation. New York: Harper Brothers, Publishers.

Remmers, H. H. (1954). Introduction to Opinion and Attitude Measurement. New York: Harper & Brothers Publishers.

Rokeach, M. (1972). Beliefs Attitudes, and Values. San Francisco: Josse- Bass Inc.

Rossi, P. H., Freeman, H. E., & Wright, S. R. (1979) Evaluation: a Systematic Approach. California: Sage Publishing, Inc.

Sabrosky, L. K. (1966). Evaluation. In H. C. Sanders (Ed.), The Cooperative Extension Service. New Jersey: Prentice- Hall, Inc.

Sanders, H. C. (1966). The Legal Base, Scope, Functions, and General Objectives of Extension Work. In H. C. Sanders (Ed.), The Cooperative Extension Service. New Jersey: Prentice-Hall, Inc.

Steele, S. M. (1973) Contemporary Approaches to Program Evaluation: Implications for Evaluating Programs for Disadvantaged Adults. Washington, D. C.: Education Resources Division Capital Publications, Inc.

Steele, S. M. (1976, July). Extension's Accountability Strategy and the Extension Education Specialist. Presentation at the North Central Extension Staff Development Workshop, Overland Park, Kansas.

Steele, S. M. (1970, Summer) "Program Evaluation--a broader definition". Journal of Extension, 5-17.

Stufflebeam, D. L. (1968). Evaluation as Enlightenment for Decision Making. Ohio: The Ohio State University Evaluation Center.

Stufflebeam, D. L. (1971). Education Evaluation and Decision Making. Illinois: F. E. Peacock Publishers, Inc., 1971.

Suchman, E. A. (1967). Evaluation Research Principles and Practice in Public Service & Social Action Programs. New York: Russell Sage Foundation.

Summers, J. C., Miller, R. W., Young, R. E., & Carter, C. E. (1981, July). Program Evaluation in Extension: a Comprehensive Study of Methods, Practices and Procedures. Morgantown, West Virginia: Office of Research and Development, Center for Extension and Continuing Education, West Virginia University.

Tuckman, B. W. (1979). Evaluation Instructional Programs. Boston: Allyn and Bacon, Inc.

Tyler, R. W. (1950). Basic Principles of Curriculum and Instruction. Illinois: The University of Chicago Press.

U. S. Dept. of Agriculture. (1980). Evaluation of Economic and Social Consequences of Cooperative Extension Programs. Washington, D. C.

U. S. Dept. of Agriculture. (1980). Home Economics and Nutrition, National Extension Evaluation Project. Washington, D. C.

Warner, P.D., & Christenson, J. A. (1981, March/April)."Who Is Extension Serving". Journal of Extension.

Wentling, I. L. (1980). Evaluating Occupational Education and Training Programs. Boston: Allyn and Bacon, Inc.

Zimbardo, P. G. (1970). Influencing Attitudes and Changing Behavior. Reading Mass: Addison- Wesley Publishing Co.

MARKETING IOWA CRAFTS: AN APPLIED RESEARCH PROJECT

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INTRODUCTION

Midwestern craft producers are eager to expand income from their home-based businesses. A conservative 1987 estimate places the number of persons actively producing and marketing crafts in Iowa at 3500 (Iowa Department of Revenue, 1987). However, this number does not reflect the fluid nature of the craft field; about 40% of Iowa craft businesses are new each year, while about 25% close (Stone & McConnon, 1988). The continued demand for information on craft marketing is evidenced by the over 5000 individuals who have attended craft marketing programs presented by the Iowa State University Extension Service and countless others who have received "Marketing Crafts" publications during the past five years (Stout & Nelson, 1982). In the same period, sewing for profit programming has attracted over 2000 people; an increasing number of these participants plan to produce fabric craft items rather than to offer customized sewing services.

Past educational programming in schools and from Extension has been product-oriented with emphasis on product design and analysis, sources for supplies, selling, promotion, and business skills for operating a home-based business. However, little research has been available on 1) characteristics that distinguish economically successful craft entrepreneurs from those less economically successful or on 2) the preferences of craft consumers. What is known about entrepreneurial success and consumer practices has been anecdotal in nature and not comparative. As a result, craft producers have not had models of entrepreneurial success upon which to base marketing decisions. In addition, craftpersons have had little in-depth understanding of why certain items appeal to consumers and other items remain unsold.

PURPOSE AND OBJECTIVES

The purpose of the research was to improve craft producers' ability to market crafts by identifying 1) examples of entrepreneurial success among craftpersons and 2) consumer preferences among craft consumers. The first objective was to develop profiles of the state's craft producers and craft consumers that included information about their education, lifestyle, products, attitudes toward pricing, marketing and consumption patterns, and involvement in the arts. The second objective was to identify differences in perceptions between craft producers and craft consumers concerning product preferences related to design, workmanship, and use; criteria used in selecting crafts; attitudes toward pricing; preferred sources and modes for shopping within and outside the state; and meanings that crafts hold. The findings were used to expand Extension programming in marketing for craft producers. Since the research was inductive, a broad range of factors was investigated for potential contributions to the profiles. The profiles are considered as hypothesis-generating for future research on craft producers and consumers.

PROCEDURES

Data collection and analysis were conducted in three phases for: 1) craft producers, 2) craft consumers, and 3) comparison of craft producers and consumers.

Craft Producers

In the first phase, 70 craftpersons participated in in-depth telephone interviews lasting 35 to 60 minutes. Producers were equally divided among weavers, quilters, knitters and crocheters, fabric crafters, potters, woodworkers, and wood crafters. Names for the purposive sample were obtained from craft organizations, managers of craft sales outlets, and Extension program registration lists. Participants had sold crafts a minimum of three years.

Data were collected using forced-choice scaled items and open-ended questions in which participants were asked to describe successful and struggling craft producers, originality in design, their reasons for starting the business, their pricing and selling strategies, and their business and management practices. They assessed craft consumers' preferences for products, originality, services, and price. Level of sales and self-rating of success were used to assign craft producers to the successful ($\underline{n}$=34) or struggling ($\underline{n}$=36) categories. Data were analyzed using descriptive and inferential statistics.

Craft Consumers

In phase two, 53 craft consumers participated in face-to-face interviews lasting one to two hours. Craft consumers in the sample had purchased a minimum of three craft items in two craft media during the past year. Names for the purposive sample were obtained from craft producers, craft retailers, arts councils, and Extension personnel.

Interviews took place in Extension offices in five communities widely spaced around the state: a large city, a small city with considerable art involvement, a university town, a tourist area, and a small community experiencing economic difficulty.

Craft consumers evaluated 30 craft items selected from three media: 16 fiber, 8 wood, and 6 clay. Actual crafts are recommended as stimuli when studying consumer preferences for highly visual and tactile products (Littrell, Salleh, & Arney, 1987; Salvidor, 1976). Fiber crafts included woven, quilted, knitted, crocheted, and sewn items. Wood items included turned, laminated, carved, constructed, stained, and painted examples. The clay products were wheel thrown, slab, cut out, and hand formed, and were raku and kiln fired. Craft items were representative of craft products commonly produced in Iowa and exhibited high quality workmanship. The craft set was balanced in terms of technique, colors, price range, functional vs. decorative items, plain vs. decorated surface, and style. For each medium, consumers ranked items according to their preferences and discussed reasons for placing items at the top and bottom ranks. Consumers also completed a questionnaire related to general criteria for purchasing crafts, pricing, shopping, and demographic characteristics.

Data from consumer interviews on general criteria for purchasing crafts, pricing, and shopping were first analyzed by consumer groups formed based on the types of crafts purchased by the consumers during the past twelve months. The three groups were consumers who purchased primarily items with a country decorating theme (country-theme buyer, $\underline{n}$=20), those who purchased craft items not related to the country theme (non-theme buyers, $\underline{n}$=12), and purchasers of both types of crafts (both buyers, $\underline{n}$=16). Descriptive and inferential statistics were used for the analysis.

In a second form of data analysis, profiles of consumers were developed based on qualitative and quantitative analyses of the interview data. Informants' descriptions of their reasons for placing craft items at top and bottom ranks were first analyzed with a content analysis system developed to fit the unique content of the data. Separate analyses were conducted for consumers' discussions and evaluations of fiber, clay, and wood crafts.

The tape recorded interviews with consumers were transcribed, and the discussions were divided into syntactical units of analysis. In preparing for each cluster analysis, a sample of responses was examined and coding categories were identified to capture the wide range of content in consumers' descriptions. Coding Guides were developed for the major categories and sub-categories of content extracted from the data. Major categories across the three media included color, design, materials, production and workmanship, and function and use. Sub-categories varied within each media. Intercoder reliabilities between two coders using the Coding Guides were .92, .89, and .89 for fiber, clay, and wood, respectively. The content analyses were carried out and the entire set of data coded using the FileMaker Plus software package for the Macintosh computer.

Quantitative analysis followed the content analysis. For each craft medium, informants' coded responses were converted to a similarity matrix, and hierarchical clustering of participants was conducted using the Ward method of cluster analysis from SAS. Cluster analysis is a statistical tool for placing people into groups suggested by the content of interview data, rather than into groups defined in *a priori* fashion. Individuals in a given cluster, or profile, were similar in the reasons they gave for liking or disliking crafts and were dissimilar from consumers in other clusters.

Comparison of Producers and Consumers

Phase three consisted of a comparison between responses of craft producers and craft consumers to matching questions. Topics included criteria for selecting crafts, services, promotion methods, sales methods and locations, shopping modes, prices, and magazines. Data were analyzed using descriptive and inferential statistics.

RESULTS

Craft Producers

Successful Craft Producer Profile. Profiles of successful and struggling craft producers revealed striking differences. Business-related characteristics dominated the profile of the successful craft producer. They started their businesses because of strong financial need or an important financial goal, such as providing college education for their children. Being able to work in the home was important. Successful craft producers worked an average of 43 hours per week, 13 hours more than their struggling counterparts. Successful craft producers were more likely to have written business plans (26%), carry business insurance separate from a home owner's policy (44%), and maintain a business bank account separate from a personal account (82%). Original products characterized their product line. They evaluated potential volunteers or employees on skills for a particular job rather than hiring employees for convenience.

Marketing practices showed attention to pricing, promotion, and market expansion. Sales for medium and high priced items, rather than high volume sales of low-priced items, contributed to their success. Pricing items for profit was difficult for both successful and struggling craft producers; however, successful craft producers were twice as likely as struggling craft producers to use some kind of formula for pricing. For 26% of the successful craft producers, the formula included labor, cost, and overhead. Successful producers were twice as likely to define customers by income. Paid advertisements, participation in wholesale trade shows, and offering crafts through mail-order catalogs were part of the successful craft producer's sales strategy. Sales in tourist towns and in the western and southern parts of the United States had been used to expand markets. Plans for future sales were ambitious. Of those who wanted to expand their sales volume (62%), 38% wanted to increase volume by 25% to 50%; another 29% sought increases of 50% to 75%.

Persons living in rural areas often feel their chances for profitable businesses are limited due to their isolated geographic location and low population density (Kean & Niemeyer, in review). However, location appeared not to be a deterrent to success among the craft producers in this research; 50% of the successful producers lived in rural areas or in communities of under 2,500 population.

Struggling Craft Producer Profile. The profile of the struggling craft producer was highlighted by personal characteristics and a localized conceptualization of the business. "Enjoyment," "paying for a hobby," "getting rid of extras," and "fun" were important reasons for starting the business. They tended to price products based on advice from others, comparison pricing, and what the market would bear. Struggling craft producers used leftovers from family and friends for their craft supplies. Their customer was defined as someone who decorates the home. Personal sales were conducted in the home. "Originality" in design was described often as successfully adapting others' ideas. They tended to hire employees with financial need.

Craft Consumers

Analysis by Types of Purchases. Country-theme consumers, non-theme consumers, and those who purchased both types of crafts all valued color, quality, design, and being able to display the item. However, color and cost were more important to country-theme buyers, while uniqueness was more important to non-theme craft consumers. Country-theme craft buyers spent much less on craft gifts than the other two groups.

When asked how important selected services were to them, all three groups wanted information on the product, its care or safety features, and the producer. In fact, those were the only services important to non-theme buyers. Country-theme buyers included refunds and discounts as desired services, while buyers of both types of crafts were interested in refunds, but not discounts.

A question about the importance of promotional methods revealed that all three groups appreciated mailings and news articles about craft producers. Country-theme buyers and buyers of both types of crafts rated advertisements as important while non-theme buyers and buyers of both types desired business cards.

All three types of craft consumers rated craft shops among their most important sources for crafts. Country-theme craft buyers and buyers of both types of crafts gave bazaars their highest ratings. Art galleries were more important craft sources for non-theme craft buyers. All consumers made craft purchases in their own communities. Non-theme buyers purchased crafts mainly in medium sized towns and metropolitan areas. Country-theme buyers shopped in small and medium sized towns and tourist towns. Buyers of both types of crafts used the greatest variety of sources and locations to find crafts.

Consumer Profiles. Profiles of craft consumers were developed based on the consumers' discussions and evaluations of craft items in three media: fiber, clay, and wood. Five profiles of consumers emerged in the analysis of fiber crafts. For two consumer profiles, specific colors, color combinations, and color intensities and values were important in defining preference. One of these consumer groups also gave careful attention to the weight, quality, texture, and combination of materials used in a fiber craft, while the other group focused on a craft's uniqueness or "look". For a third consumer group, preference for fiber crafts was related to details in the production and finishing of the product. The potential uses of a craft either in the home (group 4) or for clothing (group 5) were salient in the preferences of the final two consumer groups. An item's versatility added to the appeal for clothing items.

As with the fiber crafts, the analysis of consumers' discussions of clay crafts was dominated by themes of color and uniqueness, materials, and use. One group of consumers was attracted to clay items that were unique, unusual, "eye-catching," appealing in color, and that evoked the emotions of a rural or country look. A second group focused on details of materials including glazes, visual and tactile textures, and an item's weight or sturdiness. The two final groups assessed the usefulness of a clay craft from two perspectives. One group was attracted to clay items that had decorative uses in the home. The last group focused more on a product's suitability for cooking, storage, or pouring of liquids. A product's shape, form, and simplicity were appreciated by that group as well.

The analysis of consumers' discussions of wood crafts revealed four profiles; themes differed from those in the fiber and clay profiles. In two profiles, consumers focused on detailed aspects of the wood media. In the first profile, consumers were attracted to wood products with fine finishes resulting from high quality sanding. A product with versatility for use was also appealing to this group. For the second group of consumers, the wood type, grain, tone, and color, and its visual and tactile texture contributed to a craft's appeal. These qualities were correlated with the look, feeling, or mood evoked through a craft. The colors used in painting a wood craft were associated with its decorative and functional uses for consumers in the third profile. Finally, parts of a product's design, such as flowers, a bow, or an animal's face were considered "cute" and provided the major appeal for consumers in the fourth profile.

Comparison of Producers and Consumers

Craft producers and consumers had similar perceptions of the acceptability of prices for crafts in Iowa and of characteristics important to consumers when buying crafts. However, consumers were more sensitive than producers predicted consumers would be toward aesthetics, quality, and color in crafts. In addition, consumers were more interested than producers expected in information about the craft producer and product, mailings, and news coverage. Country-theme buyers paid much less for craft gifts than did non-theme craft consumers. Craft producers' perceptions of how much people paid for various types of craft gifts was similar to the averages of the three craft consumer groups.

CONCLUSIONS AND RECOMMENDATIONS

The importance of business skills to the success of craft producers gives credence to the emphasis placed on business practices in past Extension workshops and counseling sessions and to the need to stress development of a written business plan in future programming. One craft producer summarized eloquently in these words the importance of a business plan, "A business plan is a written document; a dream is a vision and there is a difference. They are both important, but in order to have something to measure, you have to have it written down. It's too easy to change your perception of what you are striving for if you don't have something you can refer to in terms of a written document." However, observations of many participants in craft marketing and sewing for profit workshops and results of home business research indicate that craft producers are product-centered, rather than business-centered in their approach to their business operations (Kean & Niemeyer, in review). Many resist recommendations that they adopt accepted business and management practices. Craft producers find it easier to understand and apply business and management recommendations when discussions, printed material, and other media are targeted specifically to the craft producer rather than to a more general business audience. Therefore, as results of the research have been used to strengthen both craft marketing and sewing for profit programming, care has been exercised to relate the content to the craft producer.

Two videotapes targeted for use by individuals and small groups of craft producers combine research results with aids for applying the information to viewers' businesses. "Marketing Crafts: Success with Selling," incorporates major findings of the producer phase of the research with interviews of six craft producers who participated in the research (Stout, Jonasson, & Reilly, 1989). The essential parts of a business plan are introduced. Then craft producers discuss how they have put parts of the business plan into practice. Topics include product definition, pricing, competition, the customer, sales methods, promotion, personnel needs, business finances, and management skills. The Extension publication, "Marketing Crafts: Business Plan Outline," presents details on writing a business plan, including a simplified cash flow analysis, pricing formula, and resources for other marketing assistance (Stout & Reilly, 1989). A second videotape, "Marketing Crafts: Knowing Your Customer," and accompanying worksheets will emphasize findings of the consumer phase of the research, including promotion and consumers' criteria for evaluating craft items.

Three new publications in the "Marketing Crafts" series on selling through home parties, holiday boutiques, and sales reps help craft producers expand their marketing options (Stout & Ouverson, 1989). Two additional publications on analyzing products for the market place and selling wholesale are in preparation (Stout, in progress).

Several other efforts have brought research findings to Extension staff, other professionals, and to craft producers beyond those contacting Extension for assistance. In-service education for the priority issue, Educating for Economic Development, included a report on the research. A series of releases for radio, television, and newspapers have been developed and distributed. Written reports highlighting major findings have been sent to craft producers participating in the research, Extension staff, the Iowa Arts Council, Iowa Small Business Development Centers, Iowa Department of Economic Development, and Iowa Department of Agriculture. A proposal for two articles has been accepted by The Crafts Report, the major trade publication for craft producers; the first article will appear in the May or June 1989 issue (Stout, Littrell, & Reilly, in press). Presentations to craft guilds have been given and more are planned. The marketing videotape, with accompanying media releases, has been shared through the North Central Regional Educational Materials Project and with colleagues in several states outside the region. Information generated by the research project has provided the impetus for establishing a formal network of craft producer organizations to deal with the issue of marketing. This statewide network is working toward the development of an Iowa Crafts Council or funding for a craft position on the Iowa Arts Council. In addition, the network is involved in creating a statewide data base of craft producers.

Information on prices consumers pay for craft gifts is being studied by a merchandising faculty member. Recommendations will assist craft producers with developing product lines that cover popular price points.

The findings related to marketing crafts to tourists by successful craft producers have implications for future research and Extension programming. They have served as the basis for an applied research project on craft marketing for tourism proposed jointly by resident researchers and Extension specialists in Iowa, Minnesota, and Nebraska. The decline of the agricultural economies and the emphasis on developing tourism in all three states makes this a particularly timely research subject.

ACKNOWLEDGMENT

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REFERENCES

Iowa Department of Revenue. (1987). Retail sales and use tax report. Des Moines, Iowa.

Kean, R., & Niemeyer, S. (in review). Viability of home-based business: Twentieth century independent modes of production.

Littrell, M. A., Salleh, N., & Arney, S. (1987, April). Marketing handcrafts to out-group patrons. A paper presented at the Annual Meeting of the Society for Applied Anthropology, Oaxaca, Mexico.

Salvidor, M. L. (1976). Molas of the Cuna Indians: A case study of artistic criticism and ethno-aesthetics. Ph.D. dissertation, University of California at Berkeley.

Stone, K., & McConnon, J. C. (1988). A guide to using sales tax data to assess business risks in community development extension programs.

A paper presented at the Annual Meeting of the American Agricultural Economics Association, Knoxville, Tennessee.

Stout, J. (in progress). Marketing crafts. (Nos. Pm 1347d & e). Iowa State University Extension publications.

Stout, J., Jonasson, C., & Reilly, R. (1989). Marketing crafts: Success with selling. (No. 75581). Iowa State University Extension videotape.

Stout, J., Littrell, M. A., & Reilly, R. (in press). Iowa State University study describes successful craft producers. The Crafts Report.

Stout, J., & Nelson, D. (1982). Marketing crafts. (Nos. NCR 175 - 178). North Central Region Extension publications.

Stout, J., & Ouverson, C. (1989). Marketing crafts. (Nos. Pm 1347a - 1347c). Iowa State University Extension publications.

Stout, J., & Reilly, R. (1989). Marketing crafts: Business plan outline. (No. Pm 1347f). Iowa State University Extension publication.

NEEDS ASSESSMENT METHODS USED IN EXTENSION HOME ECONOMICS PROGRAMMING

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INTRODUCTION

In the quest for improved extension programs with greater clientele acceptance, participation, and impact, the search continues for more effective needs assessment strategies. Most of the needs assessment literature describes alternate sources for gathering information (Barbulesco, 1980), and strongly endorses formal and systematic procedures.

Observation, however, indicates that there may be a discrepancy between what is recommended and what is practiced (Cross, 1979; Jones, 1973). Those that have described the situation seem to view formal needs assessment on one hand and intuitive, haphazard, "need less" (Brackhaus, 1984), "shot gun" (Smith, Taylor, Woeste, 1983), and "flying by the seat of one's pants" (Pennington & Green, 1976) programming on the other. In actuality, very little is known about what planners do (Dohr & Finley, 1979; Sork, 1981) and how programs come about (Nowlen, 1980).

PURPOSE AND OBJECTIVES

The purpose of the study was to identify how Extension home economists plan programs and to quantify their use of advisory committees and other methods of determining needs. Secondly, it was hoped that a tool could be developed to assist extension agents become more aware of their planning tendencies and allow others to assist them in their efforts.

PROCEDURES

Data Collection

Data were collected by mailed questionnaires from a sample of Extension home economists in seven midwestern states: Illinois, Iowa, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin. Fifty percent of the home economists in each state were randomly cluster sampled using a table of random numbers. A response rate of 85 resulted.

Instrumentation

After reviewing the research design of other studies, a questionnaire was selected 1) to permit the collection of data from a large sample of home economists from seven states, 2) to ensure respondent anonymity, and 3) to provide a manageable means of collecting data and quantifying the results.

The questionnaire was developed by the investigator and asked for three types of information. First, background information was secured from each home economist, including: state, years of Extension employment, full-time and part-time status, type of educational degree, home economics subject matter, and whether or not the home economist planned programs jointly with other home economists in the same extension office. Second, each respondent listed three major adult-oriented programs they planned to conduct during 20 or more workdays in the coming year.

In the third section, a list of 32 ways program needs could be identified (Table 1) helped the respondents indicate those used in planning the three programs. The home economists indicated both major needs assessment method (the one that first indicated to the home economist the need for the program) and any number of subordinate methods for each program. These methods were categorized into five major types of needs assessments (history, context, philosophy, operations, and formal needs assessment) based on the work of Philip Nowlen (1980) and were validated by a group of 12 Extension and adult education experts. The list of methods were pretested by a group of Extension home economists not in the study and clarity, usability, content validity, and the overall selection of needs assessment methods were analyzed. The questionnaire was revised and revalidated.

Data Analysis

The data were supplied by 241 Extension home economists. The total number of programs studied was 683.

Statistical techniques employed to analyze the data were selected from SPSSX, in the Statistical Package for the Social Science series. Descriptive statistics, frequencies, and percentages were calculated for the independent variables, the 32 needs assessment methods and Nowlen's (1980) five categories.

Significant differences in years of experience with the other personal characteristics of the home economists and each category were determined by a one-way analysis of variance. A Pearson product-moment correlateion (r) was computed to measure the strength and direction of the linear relationship between the number of needs assessment methods and the years of employment.

In an attempt to test independence of the association of the nonparametric variables with each other, chi-square statistics were calculated using a Crosstabs procedure. Results were compared to a pre-determined .05 level of significance.

Planning Options

1. Result of a test or pretest given to an individual or group.
2. Study of organizational and census data; enrollment trends.
3. Availability of an outstanding speaker, specialist, faculty member, resource person, laboratory (i.e. legislature in-session), other equipment or facility.
4. Adopted after examining successful programs of others.
5. Ideas gained through travel or a new experience, perhaps a visit or talk by someone outside the community; a training meeting, state or national conference.
6. Careful reflection or study of the traditions and purpose of the Extension Service.
7. The program has been important in our area for some time and there is a general feeling that it should be continued.
8. Gleaned from current research in a topic area.
9. A spin-off from a program or the result of any part of the program planning process; perhaps because of an evaluation at the end of a meeting.
10. Collaboration with practitioners from other agencies who have special expertise.
11. Requests or questions of indiviual clients and client groups.
12. Recommended by a program coordinator or supervisor.
13. Scanning the media for ideas: tv, newspapers, magazines, radio call-in programs, etc.
14. Survey of resources and resource people in the community.
15. My own philosophy, personal or professional interest, or something I thought would be of interest or solve a problem.
16. My own philosophy of what extension should be doing.
17. Recommended by an influential or legitimizer in the community.
18. Influenced by some aspect of the home economics profession; a past course, a reknown professional; philosophies related to home economics.
19. Recommendations from an advisory committee.
20. Analysis of a particular life stage or a special needs group.
21. Result of a needs assessment procedure, interest inventory, questionnaire, telephone survey, delphi technique, interview, etc.
22. Legislative mandates or guidelines of the state or federal level.
23. Recognition of political, economic, or social trends in the community or nation.
24. Availability of a prepared instructional packet, newsletter, brochure, film, correspondence course, or computer software.
25. Availability of a grant or scholarship; suggestions by a funding source.
26. Evaluation of previous program efforts.
27. From a subject matter or a curriculum orientation.
28. A diagnosis by experts.
29. Based on a history of interagency cooperation.
30. Collaboration with coworkers or home economists in a nearby county.
31. Based on a philosophy of education or extension.
32. Result of an informal discussion and/or an observed incidence in the community.
33. Other (specify)

Table 1

Because a number of needs assessment methods were given for the three programs, a Multiple Response procedure (SPSSX, 1983) was run to sort out the responses and to facilitate descriptive comparisons.

RESULTS

Demographics

An analysis of the demographic data indicated that 53 percent of the respondents had been employed 10 years or less as an extension home economists, 89 percent were employed full-time, and 52 percent had a bachelor degree.

Most of the home economists had an educational background in a specific area of home economics (74%), although those with general home economics background (26%) were larger in number than any of the specialty areas. Home economists were found to be employed most often in cities of 9,999 or less (61%) and were not generally working with another extension home economist (71%). Food and nutrition was selected most (32%) as a major program emphasis.

Findings

Extension home economists were found to use an average of five different needs assessment methods to determine each program. All needs assessment methods were selected a minimum of twelve times with only one person making an addition in the "other" category. This addition was identified as determining a need through a "county program review".

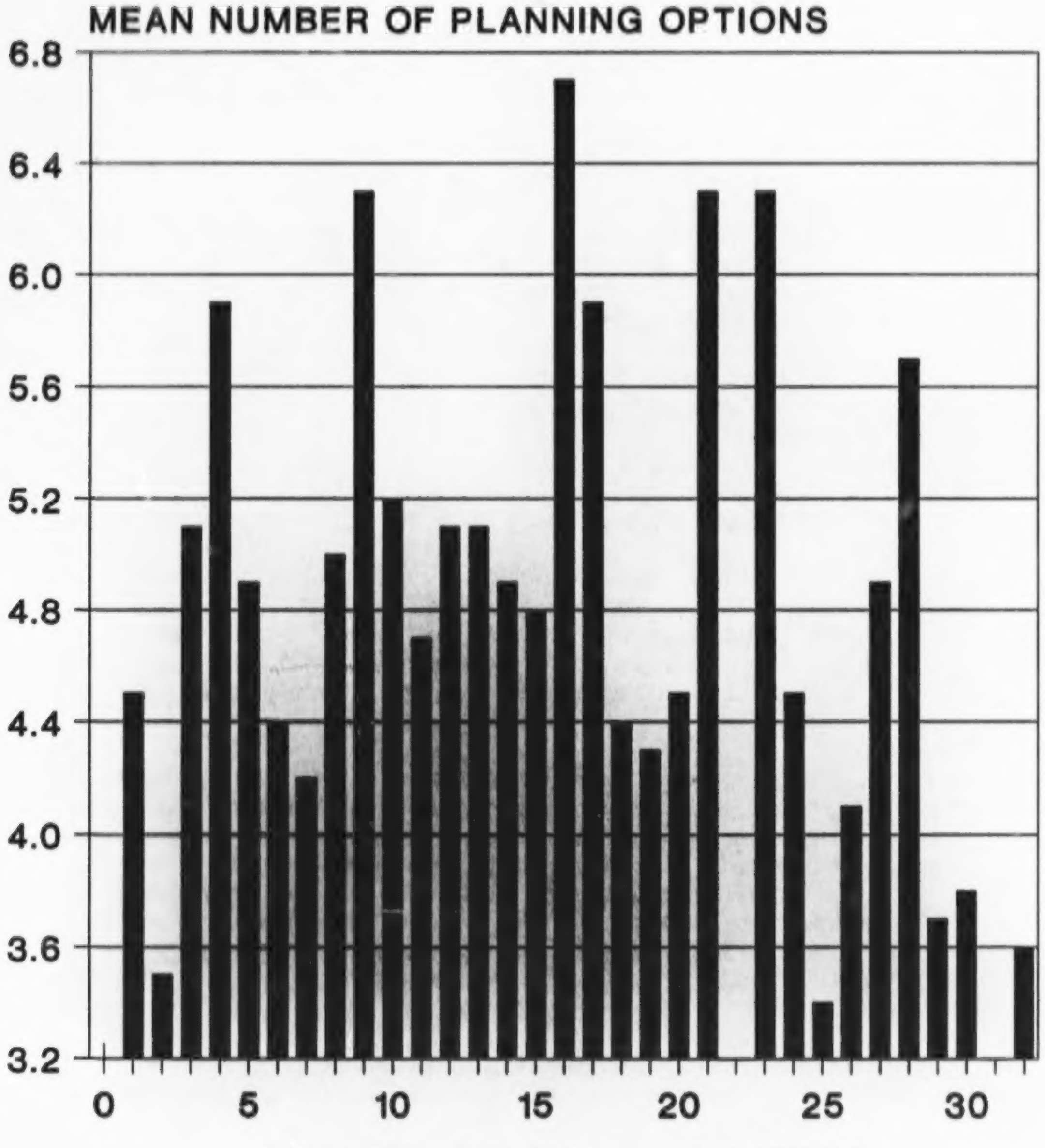
Advisory committee recommendations, requests or questions from individual clients, program spin-offs (needs gleaned from programs previously held in the community), and having an important program for a number of years, were the most cited methods.

The home economist's personal interest ranked high also (selected for 27 percent of the programs), indicating that these Extension professionals may need to be sold on the program idea. The least selected method was a diagnosis by an expert (less than 2 percent indicated this method for their programs).

Despite their popularity, as a major needs assessment method, advisory committees were a factor in only 48 percent of the programs and were selected as a major influence for only 17 percent of the programs. Six percent of the home economists did not use advisory committees or any other formal needs assessment method, such as a questionnaire, observation, or a pretest, for any of the programs they indicated.

No significant relationship was found between the number of different needs assessment methods used and the years the home economists were employed though there appeared to be periodic upswings in use every five to seven years (Table 2).

TABLE 2



Grand Mean = 4.88
No One Employed 22 Or 31 Years

No significant relationships were found, however general tendencies were noted related to the five categories of needs assessment and the demographic data. These findings are listed below:

1) The formal needs assessment category was the only category for which a larger percentage of full-time home economists selected these methods.

This finding adds support to Brackhaus (1984) and Pennington and Green's (1976) concern that part-time personnel may not have the time it takes to utilize formal needs assessment procedures to a large extent.

2) The formal needs assessment category was the only category for which a larger percentage of home economists who did not share planning responsibilities with another home economist selected these methods. This may be likely because those that share responsibilities for planning have more opportunity to develop a number of programs using a variety of needs assessment methods.

3) Historical needs assessment methods (those based on the agency's program goals and directions) were not selected by home economists with housing, interior design, and equipment backgrounds. However, operations methods (those based on the planning process) were largely selected by these home economists. Requests from individual clients and program spinoffs may be the primary methods of these programs.

4) A negative correlation resulted when the total number of philosophy methods (those based on philosophical foundations or values) by years of experience were compared. This result may indicate that "home economists own philosophy or personal interest" as well as some of the other philosophical methods decrease as they gain more years of experience.

5) Contextual methods (those based on trends and available resources in the community) were largely selected by home economists with human development backgrounds and who had human development programs. Likely their training made these home economists more aware of the trends and available resources in the community. In addition, the longer the home economist had worked for extension, the greater percentage of context origins were evident. Perhaps, as home economists work longer, they become increasingly familiar with their communities and the people they represent.

Significant differences were found (.01) with the total number of historical and formal needs assessment methods and the variable state. The total number of origins given by home economists was also found (.01) to be significant by state. Home economists in Minnesota averaged the largest number of all origins selected, and Nebraska and South Dakota the lowest numbers of any state. It is not know why the two more western states have lower numbers or origins for these two needs assessment categories. Perhaps where distances are greater and the planning processes tend to be more traditional, there may be less of an opportunity to use these origins.

CONCLUSIONS

The results of this study indicate that a variety of needs assessment methods are being used by Extension home economist when planning major programs. Since the list of needs assessment methods was shown to be complete and all the methods were selected, this list may be a tool to enable extension home economists see trends in their planning selections and to acquaint them with a number of needs assessment alternatives.

There appears to be some evident trends in the type of needs assessment method selected and some of the demographic data. However, more research needs to be conducted in this area to confirm these findings.

Although there is much emphasis on advisory committee inputs as the major or sole justifiable method of Extension planning, more research and discussion is needed to discern whether this is, indeed, desirable. There are strengths and weaknesses in any single approach. Perhaps using a variety of methods reduces the weaknesses of any single needs assessment technique while building on diverse strengths.

APPLICATION

Since the list of needs assessment methods was shown to be complete and all methods were selected, the list may be a tool home economists use to track or determine trends in their planning selections. The list could also be used as a quick reference of alternative needs assessment methods.

REFERENCES

Barbulesco, C. (1980). Components of a major needs assessment study. New Directions for Continuing Education, No. 7. Washington, D.C.: Jossey-Bass.

Cross, P. (1979). The state of the art in needs assessments. Paper presented at the Conference on Lifelong Learning. Akron, OH. (ERIC Document Reproduction No. ED 181 032.)

Brackhaus, B. (1984). Needs assessment in adult education: Its and prospects. Adult Education Quarterly, 34(4), 233-239.

Dohr, J., & Finley, C. (1979). County extension program development: A descriptive study. Madison, WI: University of Wisconsin, Wisconsin Cooperative Extension Service.

Jones, C. (1973). Planning educational programs for adults: Theory and practice. Adult Leadership, 22(3), 89-90, 120.

Nowlen, P. (1980). Program origins. In A. Knox, W., Griffith, & H. McClusky (Eds.), Developing, administering, and evaluating adult education (pp. 14-36). Washington, DC: Jossey-Bass.

Pennington, F., & Green, J. Comparative analysis of program development process in six professions. Adult Education, 27,(1) 13-23.

Smith, M., Taylor, B., & Woeste, J. (1983, November/December). Criteria to assess program choices. Journal of Extension, 21, 13-19.

Sork, T. (1981). The postmortem audit: Improving programs by examining failures. Lifelong Learning, 4(3), 6-7, 31.

SPSS Inc. (1983). SPSSX User's Guide. Chicago, IL: Author.

Coding of Individual Needs Assessment Methods into Five Categories

To prevent potential bias inanswering the questionnaire, the 32 origins, written to represent Nowlen's (1980) five categories, were randomized for the pretest and the final study. Below is the key to this randomization.

Categories	Individual methods
History	6, 7, 22, 29
Philosphy	15, 16, 18, 27, 31
Operations	4, 9, 11, 12, 30
Needs Assessment	1, 2, 8, 19, 21, 26, 28, 32
Context	3, 5, 10, 13, 14, 17, 20, 23, 24, 25

INTRODUCTION

Before I begin discussing the three papers, I want to make three comments that I usually make when I serve as a discussant: (1) No research project has been conducted, to my knowledge, in the field of extension education that has been perfect in every detail, (2) Various constraints in a real world establish limitations which we, as humans, simply cannot overcome, and (3) Despite its imperfections and limitations, research in the field has provided us with invaluable information for conducting extension programs. I mention these three factors because they are often forgotten when one reviews research that is conducted by others (though strangely enough, we never seem to forget them when we review our own research).

Each of the three studies we had this afternoon were surveys. Our major concern with survey research is external validity, that is, to what groups can we generalize the results of the study? We have three factors that influence external validity: (1) sampling bias, (2) non-response, and (3) measurement error. Sometimes these three factors are also called threats to external validity. Although I will have other comments about the studies, most of my remarks will center around these three factors and what procedures were taken to reduce them as threats.

Paul R. Vaughn

EVALUATION ATTITUDES AND PRACTICES OF OHIO COOPERATIVE EXTENSION SERVICE COUNTY LEVEL HOME ECONOMISTS: A RESEARCH SUMMARY

Authors: LaVerne Blount and Joan Gritzmacher

Discussant: Paul R. Vaughn, Mississippi State University

STRENGTHS OF STUDY

The authors of this paper are to be commended for selecting an excellent topic to be studied. We often determine people's attitudes, but rarely do we follow through with a study to see if people put into practice what they believe. The study is basically well developed and has contributed to our knowledge base in extension education. The approach taken by the authors is one that deserves attention by anyone who is contemplating an attitudinal study.

I found the objectives of the study to be well written and easy to understand. The study was very straight forward in its approach and the design was appropriate for the objectives. The use of a random sample is to be commended as a means of controlling sampling bias.

SUGGESTIONS FOR IMPROVEMENT

Although the procedures for the study appear to be basically sound, I do have several suggestions for improvement. The first pertains to the sampling procedure. The authors neglected to tell us the size of the population from which the sample was drawn. The size of the population is important as it gives us an indication of how much sampling error we can expect from a sample size of 49. How much sampling error we have will help us make a decision about how much sampling bias we have, which in turn, will tell us if the researchers are justified in generalizing their findings back to the population. We must recognize that we always have sampling error, even when we take a random sample. Sample size is directly related to sampling error, and it must be taken into account if we want to get an indication of how representative our sample is of our population. I would suggest the researchers check their sample/population size in one of several charts that have been developed by sampling authorities. This will do one of two things: (1) It will help strengthen the findings of this study, or (2) It will give an indication of possible sampling error. The second sampling suggestion I have pertains to the use of the three strata or categories. With such small numbers, dividing the individuals into three groups will not provide us with any meaningful data or analysis. I would suggest elimination of the the three groups.

Non-response is also a concern in this study. The concern is not that the response rate was low; the concern is that it was not reported. Without that information, it is impossible to accurately judge the threat of non-response to the external validity of the study. I would suggest that the response rate be clearly identified.

The third factor, measurement error, is also a concern. Although there are a number of factors that influence measurement error, most pertain to the instrument. Was the instrument valid? Was it reliable? Did the people understand the questions correctly and respond accordingly? These questions about the instrument need to be answered in the affirmative in order for us to feel comfortable about the threat of measurement error to the validity of our study. This is of particular concern when we use a non-standardized instrument, such as the one in this study. I could not find where the authors had conducted any procedures to reduce the threat of measurement error, and I think the addition of such procedures would enhance the study. Procedures that are often done in educational research for this purpose are: (1) conduct a pilot test for clarity of the instrument, (2) conduct a reliability test of the instrument, and (3) conduct a validity review of the instrument, usually through a panel of experts.

MARKETING IOWA CRAFTS: AN APPLIED RESEARCH PROJECT

Authors: Rae Reilly, Mary Littrell, and JaneAnn Stout

Discussant: Paul R. Vaughn, Mississippi State University

STRENGTHS OF STUDY

This study was very interesting to me, as I rarely see this type of research at our Agricultural and Extension Education research conferences. I am sure one of the reasons why it is rare is because it is more qualitative than quantitative, and qualitative research is often soundly scorched by discussants in our field. That is a shame, because qualitative research can add tremendously to our knowledge base while at the same time strengthen our quantitative research.

Although I will have suggestions for improvement, this is an excellent example of qualitative research. It is very well written, and the research procedures indicate a thoroughness on the part of the researchers that deserves emulation. As is the case with most qualitative research, a tremendous amount of time and effort was spent on data collection. The face-to-face interviews using actual crafts to determine consumer preferences was an excellent procedure. The purposes, procedures, and results are clearly written. The threat of non-response was completely eliminated by the procedures used in the study. It was an enjoyable study to read and evaluate.

SUGGESTIONS FOR IMPROVEMENT

Sampling bias is usually a major concern when we have a qualitative study, and this study is no exception. In order to have in-depth interviews, the authors chose participants who were willing to submit to an intensive interview process. As often happens with research in the social sciences, this has the effect of both strengthening and weakening the research. The in-depth interviews provided much more detailed information than we would gain from a mailed questionnaire, but the lack of a random sample also limits the population to whom the findings may be generalized. How does one solve this Catch-22 situation? My suggestion is to report the findings as they occur WITHOUT trying to generalize beyond the population. The sample should be described in great detail emphasizing characteristics that would indicate how the sample is similar (or dissimilar) to a larger population. An accurate description of both those who CHOSE TO participate and those who CHOSE NOT TO participate is especially helpful. A brief phone call to a small number of non-participants, selected at random, would provide invaluable information concerning the representativeness of the sample and could greatly enhance the findings. For this study, I find the craft producers to be a much more representative sample than the consumers simply because they represent a larger portion of the population from which they were drawn. I would have liked to have known more about the craft consumers who chose not to participate.

Measurement error, on the other hand, could be a concern. Although the authors gave intercoder reliabilities for the coding categories used for consumers, there was no indication of reliability for other aspects of the interview schedules. There also was no indication of a pilot test or a review of content validity. Any, or all of these, would enhance the findings.

One final suggestion: While the authors did an excellent job in writing the results, they seem to have utilized their "poetic license" to a large degree in writing the conclusions and recommendations. Although the conclusions and recommendations are nicely written, they do not appear to be tied in very well with the findings. I would recommend they be carefully reviewed for appropriateness.

NEEDS ASSESSMENT METHODS USED IN EXTENSION HOME ECONOMICS

Author: Jan Scholl

Discussant: Paul R. Vaughn, Mississippi State University

STRENGTHS OF STUDY

This study was nicely written in a succinct, easy to read style. The author utilized a number of excellent research procedures which I wish to commend. The first is the use of a random sample which greatly enhances the validity of the findings by reducing the threat of sampling bias. Another is extending the boundaries of the survey beyond state lines. This, of course, allows the author to generalize to a much large population and enhances the value of the study to other researchers. The response rate of 85 percent is excellent, and greatly diminishes the threat of non-response. The conclusions match the findings and are generally written. All-in-all, this was a well designed and controlled study.

SUGGESTIONS FOR IMPROVEMENT

The major suggestion I have for this study pertains to the threat of measurement error. Without some measure of reliability and validity, we cannot be certain that the information that was collected is reliable or valid. Another way to say this is to ask the questions: (1) Would we get the same information from the same people if we conducted the survey again?, (2) Are we asking the right questions, and (3) Do the people truly understand what response we want from them? A reliability test, a pilot test, and a content validity review would help to answer these questions in the affirmative.

One other suggestion I have pertains to a common error we often make in reporting upon the results of our research. We do not find a significant relationship between certain variables, but we note there is a difference between groups. Naturally, we want to discuss what we have found. In this case, the author chose to speak of the results in terms of trends. It is certainly possible to do that, but one should realize that the analysis of the study reveals that the direction of the trend is DUE TO CHANCE ALONE. The trend likely could be reversed if the research was conducted again, using random sampling techniques. My suggestion is to simply say THERE WERE NO SIGNIFICANT RELATIONSHIPS and eliminate other comments about trends or differences. This will prevent a researcher (or reader) from making erroneous conclusions based upon the results of the study.

SESSION B

May 17, 1989

AN EVALUATION OF INTENSIVE GRAZING MANAGEMENT (IGM) USERS IN HAWAII

by

LINDA J. COX

THE EFFECT OF STAFF DOWNSIZING ON 4-H SUMMER CAMP PROMOTION AND PROGRAMMING

by

SUSAN J. BARKMAN

DETERMINING THE DEGREE OF SUCCESS OF 4-H SUMMER CAMP PROMOTION AND PROGRAMMING

by

KEITH G. DIEM

AN EVALUATION OF INTENSIVE GRAZING MANAGEMENT (IGM) USERS IN HAWAII

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Lincoln Y.T. Ching, and John Powley

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INTRODUCTION

A method of assembling various components of ranching and grazing, called intensive grazing management (IGM), has been developed which has the potential to increase beef production efficiency. Research done in Hawaii by Leung and Smith concluded that IGM results in a tenfold increase in the net returns to land, management and capital in Hawaii, compared to traditional management systems. They found that the cost of investing in an IGM unit was paid back, based on value added to the animals, within nine months of starting IGM.

Based on this research, the Hawaii Cooperative Extension Service (CES) embarked on a program to introduce IGM to Hawaii ranchers. The program stressed the use of a holistic, ecological approach to ranch management. Although intensive grazing units are one possible method to help the ranchers reach their goals and objectives, the importance of maintaining pastures along with the herd were also stressed (Smith, et al.). Thus, many practice changes may be involved in the adoption of IGM.

Various educational methods were employed in the program, including workshops, short courses, individual consultations, newsletter articles, lectures and demonstrations. Prior to 1982, there were no intensive grazing units in Hawaii, but by January 1982, the first unit was put into operation on the island of Hawaii. By 1983, there were more than 20 units in the State and by 1985 over 100. However, the use of intensive grazing units does not indicate complete adoption of IGM. Rather, it is an indication of the adoption of one practice in the program.

PURPOSE AND OBJECTIVE

More information about the adoption of IGM was desired so that the program could be evaluated and improved. Specifically, the objectives of the research described here were:

1. To develop a description, in terms of physical characteristics, of the operations and management practices of IGM users in the State.
2. To determine what impact IGM adoption and CES's IGM program has had on users.
3. To determine what CES could do in the future to meet the needs of IGM users.

PROCEDURES

Because a complete list of all IGM users in the State was not available, IGM Field Days for ranchers were held on all islands to identify those who had installed intensive grazing units. Approximately 42 percent (33) of the ranches represented at the Field Days had units. Four ranches known to have units, but not represented at the Field Day, were also added to the list of IGM users.

County extension agents felt that most of the medium-sized and larger ranches in the State were represented at the Field Days. However, some of the smaller ranches, less than 300 acres, may not have been represented. All IGM users were asked if they would consent to be interviewed so that the impact of the CES' IGM program could be evaluated and all constented.

In-depth interviews with the owners or managers were conducted by livestock agents from three counties. The agents were trained in a one-day workshop so that the interviews would be conducted consistently and they used the same form to record the answers. All the counties in the State were represented in the sample. The agents did not interview their own clients, but went instead to a neighboring county to conduct interviews.

A questionnaire was designed to gather quantitative and qualitative data on how attitudes and practices have changed as a result of the IGM as recommended by Bennett. Questions about the actual cost reductions due to IGM were not included on the questionnaire because agents felt that producers could or would not provide answers due to their inadequate records or the confidentiality of the information. However, inferences about IGM's potential for reducing production costs can be made if efficiency gains are evident. Qualitative data on rancher perceptions of the role of CES in introducing the innovation, as well as the effectiveness of its educational programs, was also gathered.

RESULTS

A large amount of information was collected by the survey described here. Much of it will serve as benchmark information so that current and future users, along with educators, can see the status of the ranchers' IGM use.

Description of IGM Users

The ranches surveyed ranged in size from 3 to 220,000 acres. Due to the large disparity in size, the ranches were grouped into three size categories to facilitate further analysis. The range selected was 1 to 300 acres for small ranches; 301 to 5000 acres for medium-sized ranches, and over 5000 acres for large-sized ranches. There were 14 small ranches, ranging in size from 3 to 300 acres, with a mean acreage of 84; 10 medium-sized ranches, ranging in size from 378 to 3800 acres, with a mean acreage of 1418, and 13 large ranches, ranging in size from 6100 to 220,000 acres, with a mean acreage of 37,585.

As Table 1 indicates, the average number of intensive grazing units on a ranch increased as the ranch size increased. This result was expected. The number of paddocks per unit did not vary much by farm size, but paddock size and herd size per unit increased with farm size.

The average number of days the animals spent in a paddock varied, but are related to the acreage available to each animal. The small ranches had .09 acres per animal in the average paddock, while the medium and large had .08 and .19 acres available per animal, respectively. The increased acreage available for grazing resulted in more grazing time per paddock. Because the IGM program stresses the condition of the grass in the paddock, this result was expected if the users had adopted this important decision criteria.

Table 1.
Description of the Average Intensive Grazing Units by Ranch Size

Ranch Size	Average Number of IGM Units	Paddocks Number	Paddocks Area (acres)	Herd Size Per Unit (head)	Average Time in Paddock (days)
Small	1.3	16	2.6	29	4.1
Medium	2.4	16	13.0	161	3.4
Large	4.8	13	65.5	343	5.9

Three designs were used for grazing units. The block design was used 24 times, the wagon wheel 21 times and the strip 6 times. Environmental factors like rainfall, elevation, and topography play a significant role in the selection of the grazing design. However, the strip design is the most flexible and intensive of the three and it is interesting to notice that this design was used the least (Leung and Smith).

Fifty percent of the small ranches made changes in the original design of the grazing units, with 30 percent of the medium-sized ranches, and eight percent of the large ranches making such changes. More design changes were probably made by smaller ranches because their units were, on average, fewer and smaller in size than the larger ranches so that changes were easier and cheaper to make. The types of changes included changes in grazing units, in the size and number of paddocks, and changes that related to the water accessibility of the unit.

Management and Labor Practices

The IGM educational program stresses the use of pasture management in the decision to move the animals to the next paddock. The most important factor in such management is the condition of the grass in the paddock which the animals will be moved to, with secondary importance being placed on the condition of the grass in the paddock currently being grazed (Smith, et al.). However, because grass may grow at a very predictable rate and because the weather may affect grass growth rate, the use of a fixed schedule, or decisions based on climatic conditions are rational strategies for less sophisticated users. The same can be said for a decision based on animals' behavior, because the animals bawl when they are ready to be moved.

Fifty-seven percent of the producers indicated that their decision to move the animals was based on the condition of the grass in the grazed paddock; 35 percent indicated they decided based on the condition of the grass in the "next" paddock; 16 percent decided based on climatic conditions; 14 percent decided based on animals' behavior, and 35 percent decided based on a fixed time schedule. These figures reflect varying levels of sophistication in the pasture management practices of these IGM users.

IGM has a greater labor requirement than conventional grazing methods (Smith, et al.). This is due to the increased supervision of the animals so that they can be moved from paddock to paddock at the appropriate time and because the confinement of animals in the units results in an increase in the labor necessary to maintain the units and the animals. Therefore, the labor requirements for IGM are of interest to researchers, present and potential IGM users.

As Table 2 indicates, the average grazing unit required about 8.5 to 15.9 hours of labor a week. This data does not, however, indicate that the large units found on bigger ranches require more labor. This may support the hypothesis that there are economies of scale for large units.

Table 2.
Average Labor Requirements Per Grazing Unit

Ranch Type	Type of Labor (hours per week)			
	Managerial	Employee	Family	Total
Small	6.7	5.9	2.9	15.5
Medium	3.8	3.6	1.1	8.5
Large	5.6	10.0	0.3	15.9

Use of Electric Fencing

Among the production practices demonstrated in the IGM educational program, electric fencing yields the greatest return per man-hour (Leung and Smith). Seventy-one percent of the small ranches, 100 percent of the medium-sized ranches, and 92 percent of the large ranches are using electric fencing. Overall, 86 percent of the survey respondents adopted this innovation.

Cost estimates indicate that one mile of conventional fencing costs $1600 more than the same length of electric fencing. Given that the average amount of electric fence used was 2.9 miles for small ranches, 5.1 miles for medium-sized ranches, and 38.2 miles for large ranches, electric fencing represents an average cost savings of $4640, $8160, and $61,120 for each ranch size respectively. In total, all users had 516.8 miles of electric fencing, giving a savings of $826,880.

Carrying Capacity

According to Savory, the use of IGM could double the carrying capacity of existing acreage. All ranchers interviewed were asked to provide data on the number of acres needed to support one animal before and after they adopted IGM. The responses are summarized in Table 3.

Table 3.
Changes in Carrying Capacity

Kind of Operation	Acres Needed to Support One Animal		Carrying Capacity Increase
	Before IGM	After IGM	
Stocker	3.25	1.24	162%
Cow/Calf	3.61	1.43	153%

Statistical tests indicate under IGM, that carrying capacity has increased at the 95% level for both stocker and cow/calf operations. Since the sample was small and there were no *a priori* expectations that carrying capacity would vary by ranch size, the data was not analyzed by ranch size. For the 18 stocker operations the acreage carrying capacity before the adoption of IGM was 3.25 acres per animal and after IGM it was 1.24 acres per animal. The average carrying capacity for the 17 cow/calf operations indicated that it changed from 3.61 acres per animal before IGM to 1.43 acres per animal after IGM.

Rate of Gain

The animals' rate of gain using IGM should remain the same or increase using IGM rather the traditional grazing system (Smith, *et al*.). If rate of gain decreased, then the increased efficiency due to the larger carrying capacity could be lost.

Information on rate of gain was collected from producers in ranges rather than in specific figures, making statistical tests of the differences invalid. The majority of the producers indicated that they did not have scales so they did not weigh their animals.

Figure 1 indicates the frequency distributions for average pounds of gain per day before and after the adoption of IGM. A visual inspection of the information indicates that the rates of gain after the adoption of IGM are equal to or greater than the rates of gain before the adoption of IGM, lending support to the experts' hypothesis.

The IGM educational program teaches the importance of setting production targets, in part involving projected weight gains needed, and determining if these goals are being met. In addition, the electronic scales needed for weighing the animals are not expensive. Therefore, lack of sophistication on the part of producers is shown because of the incomplete adoption of this management practice.

Weaning Rates

The weaning rates of calves should increase after the adoption of IGM because of the increase in attention being paid to the animals and to the goal of high weaning rates (Smith, *et al*.). Again, information on the percentage of calves weaned before and after IGM was collected in ranges rather than in specific figures, making a statistical test of the hypothesis that the percentage weaned should increase with IGM invalid.

Figure 2 indicates the frequency distributions for each weaning rate range before and after the adoption of IGM. A visual inspection of this figure indicates that weaning rates after the adoption of IGM are greater than or equal to those before IGM.

Length of Calving Period

Because of the increase in the attention given to the herd in IGM units and the recognition of the importance of shortening the calving period, the adoption of IGM will result in a decrease in the calving period compared to the traditional system (Smith, et al.). The average length of the calving period, regardless of ranch size, before and after IGM adoption is 7.2 months and 5.2 months, respectively. This difference is significant, as hypothesized, at the 90 percent level.

Drought Management

Those ranches which had experienced droughts indicated that before the adoption of IGM, they had to sell off their cattle to reduce numbers and then restock at great expense after the drought. After adopting IGM the ranchers had the following comments:

> "amalgamated herds, did not sell off cattle."
> "kept the animals in paddocks with better access to feed and water."
> "were able to hold our stocking rate and did not supplement;"
> "IGM saved his herd while neighbors had to sell out."

It appears that after the adoption of IGM, ranchers found that they could get through a.drought without being forced sell their cattle.

Forage Conservation

One way to increase animal's weight gains taught in the IGM program is to use supplemental forages like hay or silage during periods of slow grass growth or droughts. This practice was not adopted by any of the IGM users in this study.

Users' Sources of IGM Information

IGM users were asked how they found out about IGM and the importance of this source in their decision to adopt IGM. Table 4 summarizes their responses:

FIGURE 1. Average daily gain before and after IGM adoption

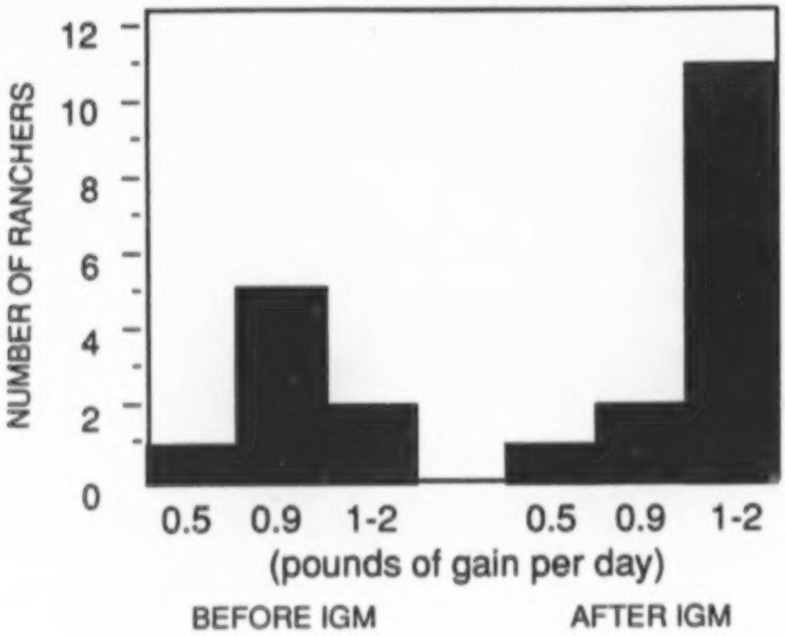

FIGURE 2. Percentage of calves weaned before and after IGM adoption

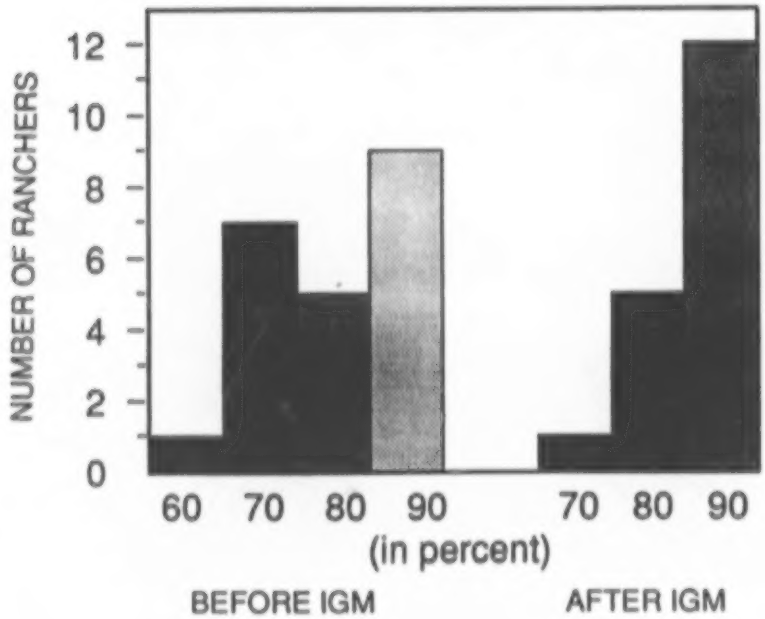

Table 4.
Sources of Information About IGM and Their Relative Importance in the Adoption Decision

Source	Respondents Citing this Source	Average Relative Importance[1]
Hawaii Grassland Workshop	31	1.26
Alan Savory Presentation	23	1.35
Another Rancher	28	1.25
Mealani Field Day	18	1.94
Mainland IGM School	7	1.14
IGM Short Course	24	1.17
Hawaiian Range Newsletter	27	1.67

[1] 1=Very Important, 2=Fairly Important, 3=Not important

Only the Mainland IGM school and possibly other ranchers, although not necessarily, would be non-CES sources used. As indicated, the majority of those surveyed relied on the CES educational program for information about IGM. Producers interviewed also indicated that 43 percent of the small ranches, 60 percent of the medium-sized ranches and 77 percent of the large ranches had employees that were trained in the IGM short course.

Future Plans of IGM Users

Ranchers were asked about their future plans regarding IGM. The responses fell into three categories: 1) those who planned to expand their operation; 2) those who planned to refine and fine-tune their IGM operation through increased subdivision, and 3) those who had decided to maintain the status quo. Each category contained approximately one-third of the total respondents.

The willingness of those in the first group to convert more land to IGM units is significant, indicating the users satisfaction with the program. The second group planned changes in size and number of paddocks to further intensify the operation and increase management control. Introduction of refinements into the IGM operation by way of design changes, increased subdivision, and other practices indicate that knowledge and skills are being constantly updated.

Future Role of CES for IGM Users

To determine what CES could do in the future to assist ranchers, they were asked what kinds of programs they felt they needed. The responses to this query fell into three categories.

The first group wanted CES to continue information dissemination through the Hawaiian Range Newsletter, and to provide state-of-the-art information on IGM through workshops and Field Days. They said that "current extension programs were excellent" and that extension was doing a "darn good job."

The second group specifically requested more education on pasture improvement strategies. They desired information on new grasses and tropical legumes, grass nutritional updates and education on weed identification and control.

A third group wanted marketing education and support. As one rancher put it, "you helped us grow a product, now help us sell it."

CONCLUSION

A survey of IGM users in Hawaii indicated that participation in the IGM program has resulted in behavioral changes. Those changes that occurred most often were the use of intensive grazing units and the use of electrical fencing. Those practices that were least likely to be adopted involve the setting of goals and objectives, and determining if management's current practices allowed these goals and objective to be meet.

As a result of these changes, the ranches surveyed have experienced an increased ability to survive droughts, a larger carrying capacity per acre, and shorter calving periods. Rates of weight gain and weaning rates may be greater, but ranchers have not adopted enough of the practices demonstrated in the program to realize how important it is to track these performance measures.

As a result of this research, everyone involved in extending IGM realized that many of the managerial practices that are part of the IGM program are not being adopted. The production technologies such as the grazing units and electrical fence appear to be more readily adopted. More attention needs to be given to managerial practices, including the management of the ranch's marketing plan, in the IGM program.

References

Bennett, Claude F. Analyzing Impacts of Extension Programs. Science and Education Administration, USDA, 1979.

Leung, P. and Smith, B. Economics of Intensive Grazing: A Case in Hawaii. Research and Extension 045. Honolulu: HITAHR, University of Hawaii, College of Tropical Agriculture and Human Resources, July 1984.

Savory, A. and Parsons, S.D. "The Savory Grazing Method." Rangelands, 2 (6), December 1980, pp. 234-237.

Smith, Burt, PingSun Leung and Love, George. Intensive Grazing Management: Forage, Animals, Men, Profits, The Graziers Hui, Hawaii, 1986.

EFFECTS OF STAFF DOWNSIZING ON 4-H PROGRAM IMPLEMENTATION

Susan J. Barkman

Stacy A. Gartin, West Virginia University--Discussant

The challenging economic times which our country has faced over the past decade has caused reduction in force to industry, education, and extension alike. It is indeed appropriate to study the perceptions of the professionals who make up organizations which have been effected. The author is to be commended for selecting such a timely topic to investigate.

As I read the paper I realized the researcher indeed was not studying the effect but the "influence" of downsizing on more than just program implementation but also on program structure, program operation and project implementation. The theoretical base and review of literature needs expanding.

In describing the procedures the researcher utilized to implement the study, it seemed as though there was a lack of specifics as to when the downsizing occurred and when the survey instrument was mailed to the 38 downsized counties. It implies that this may have been the first opportunity the staff had to discuss and work through assignments and time allocations for working with the 4-H Program. The instrument itself was nebulous at best in its description. Was the questionnaire analyzed or evaluated for content or face validity? Was it field tested and more importantly, was reliability analyzed? It would also have been extremely beneficial to have an idea of the response rate from the number of counties involved as well as the number of agents, extension program assistants, secretaries, and student worker involved in responding to the survey.

It would have been valuable to be able to study the composition of the population you were studying. The basic demographics of your population many times can provide the reader with a clearer understanding of the situations and time allocations which may be taking place. In your figure which shares with the reader the comparison of assigned and actual agent time spent on the 4-H Program you looked at the Ag degreed agent and the Home Ec degreed agent in two lights; assigned time and actual time. What is it really telling us when the assigned time is greater than the actual or vice versa? Does that imply that one is not spending the necessary time in order to equal out the assigned time? Or that they may have become more efficient and organized over the years?

The reviewer would question whether the recommendations of this detail can be made by the data on time associated with the tasks in 4-H project and program implementation. This researcher would have found it valuable to look at the relationships between selected variables and perceptions of program quality which exist in the 4-H Program. You may want to compare downsized counties with those counties not affected, might there be a difference in what is taking place and can we document that?

AN EVALUATION OF INTENSIVE GRAZING MANAGEMENT (IGM) USERS IN HAWAII

Linda J. Cox, Bert J. Smith, Glen Fukumoto,
Lincoln Y. T. Ching, and John Powley

Stacy A. Gartin, West Virginia University--Discussant

I particularly enjoyed reading and reacting to this paper because the topic and value of such baseline research and data gathering. Too often in the field of Extension we find ourselves with a lack of money, time, expertise or man power to evaluate and coordinate the highest quality of research. I believe the authors had excellent intentions in gathering appropriate and usable data to provide the bench mark for intentive grazing management in Hawaii.

The researchers utilized the interview technique to gather appropriate data. In addition to being more costly and time consuming, we know that many times the data gathered via face-to-face interview is more usable, more pertinent, and more valuable than that which is sometimes gathered by a mail questionnaire. Face-to-face interview provides for personal interaction and the opportunity to ask probing questions to gather valuable information in conducting research of this sort on a topic such as this.

The researchers encountered many difficulties; such as a lack of quality records to gather specific information from which to make analyses. It was nice to see that the researchers realized this and the weakness of their design and the vagueness of the data gathered in some categories. It should be recognized by the researchers that this study falls under the scrutiny of having frame error, for not being able to identify all the IGM participants from which to draw a representive sample in their state. Thus, the data gathered should only be generalized to those interviewed. I believe in the future should spend additional time in validating their instrument and analyzing it for reliability. For without valid and reliable information it becomes questionable as to the value of the collected.

However, I do believe that the information gathered would give credence and support in promoting the use of intensive grazing management with other possible clientele in the agriculture industry in Hawaii. I would encourage the researchers to continue their investigation and documentation of new and innovative programs. For with information such as gathered here, we can assist in the diffusion and adoption process that Extension is committed to.

EFFECT OF STAFF DOWNSIZING ON 4-H PROGRAM IMPLEMENTATION

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INTRODUCTION

Over the past two years a reduction in tax dollars caused the Indiana Cooperative Extension Service to make several organizational changes. One of these changes was a downsizing of county staff. This downsizing resulted in less than three professional agents being responsible for four program areas (Agriculture, Home Economics, 4-H and Community Development). The Organizational Plan called for downsized counties to be staffed with two professional agents, one with an agricultural degree and one with a home economics degree. In addition some counties hired Extension Program Assistants on a full or part-time basis to assist with program implementation.

The decrease in staff has caused much confusion and frustration among county staff members. They are concerned with how less staff can adequately implement all four programs. Extension agents are asking questions like:

- Which tasks must be done?
- Are there tasks that can be dropped?
- How should tasks be divided among staff members?
- What tasks should remain in the hands of the professional agent?
- What tasks can be done by an Extension Program Assistant or volunteers?

PURPOSE

This study specifically dealt with the effect of staff downsizing on the implementation of the 4-H program. The study investigated what percentage of time staff members were devoting to the 4-H program and how tasks were divided among paid and volunteer staff members. Two kinds of tasks were examined:

- general program operation tasks and
- 4-H project implementation tasks

PROCEDURES

Information concerning 4-H program implementation was obtained through a mail survey sent to 38 downsized counties. The cover letter explained the purpose of the survey and gave specific instructions on completing the survey instrument. The staff was instructed to work through and complete the survey at a regular staff meeting which included the Extension Program Assistant (EPA) and secretaries. Telephone interviews were used to follow up on extra comments written on the survey or clarify responses.

In order to report the findings, counties were grouped according to their organizational structure which was determined by the number and type of staff members. The four group descriptions are as follows:

Type I Counties:	Two professional agents with an EPA working with the 4-H or a combination of the 4-H and Home Economics programs
Type II Counties:	Two professional agents with an EPA working with the Home Economics or Ag Program
Type III Counties:	Two professional agents with no EPA
Type IV Counties:	One professional agent with no EPA

RESULTS

The findings of this study will be discussed under three major areas: Organizational Structure, General 4-H Program Operation and 4-H Project Implementation.

Organizational Structure

Four major variations existed in the organizational structure of the downsized counties: staff composition, specific job responsibilities of agents, and the education level and hours worked by Extension Program Assistants.

Staff Composition

* In 93% of the counties surveyed the ag degreed agent was the County Extension Director (CED).

* 92% of Type I, II and III counties had one ag degreed agent and one home economics degreed agent.

* 8% of Type I, II, and III counties had two ag degreed agents with one serving as a youth agent. These two ag degreed agent counties either had an EPA working with the Home Economics program or a half-time Home Economics degreed agent.

* 60% of the downsized counties have hired an EPA to assist with program implementation.

* 71% of the EPAs have a BS or above college degree. The level of education by program area assignment is listed below:

Percent of EPAs at each Education Level

Level	Overall	4-H	4-H/Home Ec	Home Ec
HS	29%	38%	33%	--
BS	63%	54%	67%	83%
MS	8%	8%	--	16%

- 42% of the EPAs work 40 or more hours per week. The hours worked by program area is listed below:

Percent of EPAs at each Work Level

Hrs./Week	Overall	4-H	4-H/Home Ec	Home Ec
20-35 hours	58%	38%	67%	100%
40 hours	29%	38%	33%	--
40+ hours	13%	23%	--	--

- 63% of the counties have more than one secretary.

- 55% of the counties have some kind of part-time student help.

Professional Time by Program Area

The percent of time spent in all program areas is summarized on page 4. The findings below deal only with the professional time spent in the 4-H program. The percent of time each agent is assigned to work with the 4-H program varies within and between types of organizational structures. Below is a summary of the official time assignments made by Adminstrative Staff.

Percent of Time Assigned to Work With 4-H Program

Percent Assigned	Number of Counties					
	Type I		Type II		Type III	
	Ag	Home Ec	Ag	Home Ec	Ag	Home Ec
0 - 5%			2			
10 - 15%	6		1		3	1
20 - 25%	7	4	4		5	2
30 - 35%	2	3			3	1
40 - 45%		4			1	1
50 - 55%		3		1	1	2
60 - 65%	1	2		1		6
70 - 75%				1		
80 - 85%						
90 - 95%						
100%				2		

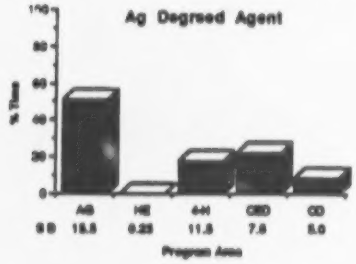
Comparison of Assigned and Actual Agent Time Spent on 4-H Program

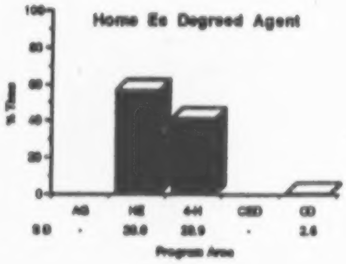
County Type	Ag Degreed Agent		Home Ec Degreed Agent	
	Assigned	Actual	Assigned	Actual
Type I	21%	18%	37%	42%
Type II	17%	15%	78%	77%
Type III	27%	21%	47%	50%
Type IV	48%	40%	---	---
mean *	22%	18%	54%	56%

* Type IV (one agent counties not included)

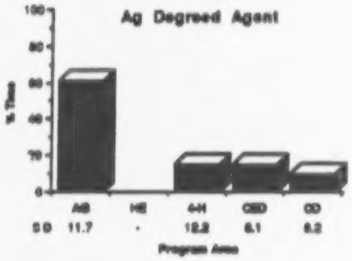
Percent of Professional Staff Time Spent In Each Program Area

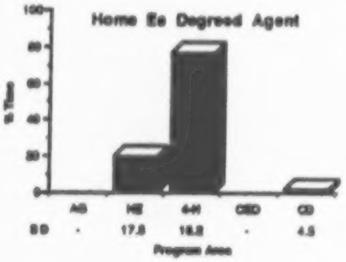
Type I Counties - Youth or Combination EPA (mean of 35 hours worked)

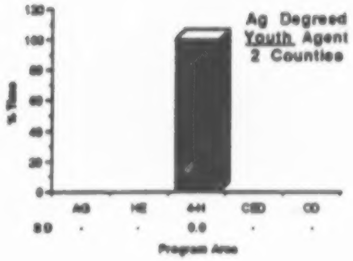




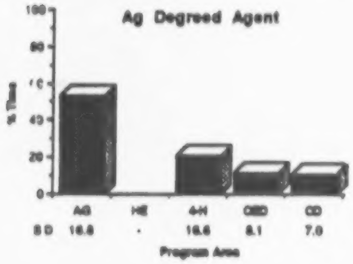
Type II Counties - Home Ec EPA (mean of 25 hours worked)

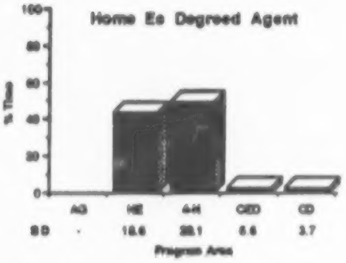


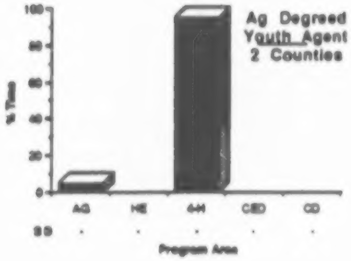




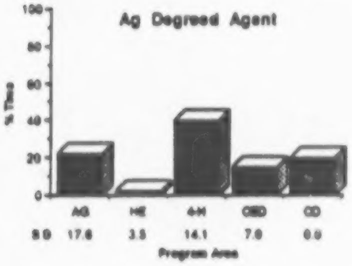
Type III Counties - No EPA







Type IV Counties - One Agent County /No EPA



- On the average, Ag degreed agents are not spending as much time on the 4-H program as they are assigned.

- On the average, the Home Economics degreed agents spending more time on the 4-H program than they are assigned.

- On the average, the Home Economics degreed agent is spending 38% more time on the 4-H program then the Ag Degreed agent.

- On the average, Home Ec Degreed agents, in Type II counties, spend 31% more time on the 4-H program than their counterparts in Type I and II counties. Note: Type II counties had part-time EPAs working with the Home Economics program.

General 4-H Program Operation

Eight major task categories are necessary for the general operation of the 4-H program. Under each category are tasks that require various degrees of skills and expertise. In the downsized county, these tasks need to be shared among remaining staff including Extension Program Assistants, secretaries, student helpers and volunteers.

But it is important that the overall program remains the responsibility of the professional Extension Agent. Minimally, the agent should be solely responsible for the program leadership and program planning functions of the 4-H program, and should play a major role in volunteer and curriculum development. The major task categories and a brief description are below:

Program Leadership - develop program goals & objectives; coordinate/articulate total program; supervise paraprofessionals

Program Planning Process - identify needs; set priorities; develop, implement & evaluate programs

Volunteer Leader Development - recruitment, training, supervision & recognition of volunteers

Curriculum - define curriculum; develop & implement supporting programs, projects & events

Audience Development - market program; identify, recruit, recognize & retain audiences

Resource Development - secure public & private program support

Program Visibility - cooperate with media to enhance status & effectiveness of program in community

Special Program/ Interagency Linkages - develop special programs to meet special needs of community, families & youth

A summary of the percent of general 4-H program operation tasks performed by paid and volunteer staff for each type of county is on pages 7, 8 and 9. Data for individual tasks has been accumulated under each major task category.

Program Leadership Tasks

* In Type I counties, the EPA is performing 50% of the program leadership tasks.

* In 38% of the Type I counties the EPA is responsible for coordinating all phases of the 4-H.

* In one county, the secretary is responsible for supervision and evaluation of the EPA.

Program Planning Process Tasks

* In all three type of counties, the Home Ec Degreed agent is doing between 45% and 65% of the Program Planning Process tasks.

* In 19% of Type I counties, the EPA is writing the Plan of Work and Accomplishment report.

* 43% of the EPAs in Type I counties are attending Area Youth Agent planning meetings.

Volunteer Leader Development Tasks

* In 38% of the Type I counties, the EPA is responsible for designing the orientation and training for 4-H leaders.

* In 25% of the Type I counties, the EPA is the lead person that works with the county 4-H Advisory Group.

* In Type II and III counties, the Home Ec Degreed agent is performing between 46% and 63% of the leader development tasks.

Curriculum Tasks

* In all three types of counties, between 16% and 31% of the Curriculum tasks are not being performed. The majority of the tasks not being done relate to the county and area judging program and the county camping program.

Audience Development Tasks

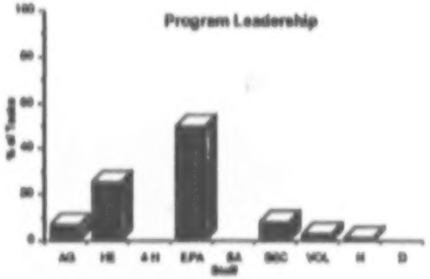
* In Type I counties, the EPA is performing 44% of the Audience Development tasks.

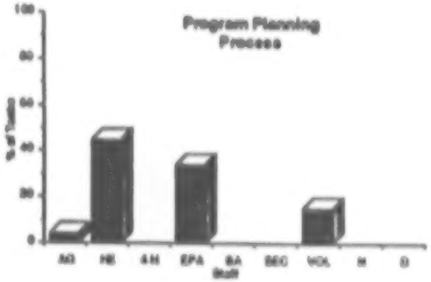
* In Type II and III counties, the Home Ec Degreed agent is performing an average of 40% of the Audience Development Tasks.

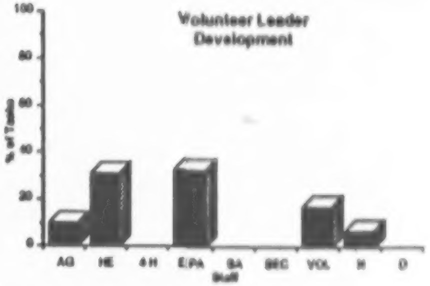
PERCENT OF GENERAL PROGRAM OPERATION TASKS
PERFORMED BY PAID AND VOLUNTEER STAFF

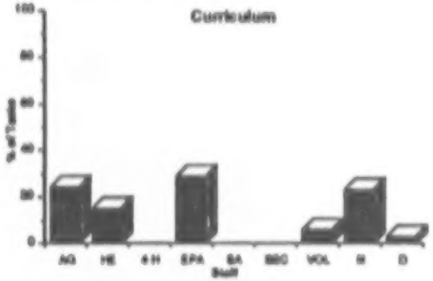
Type I Counties

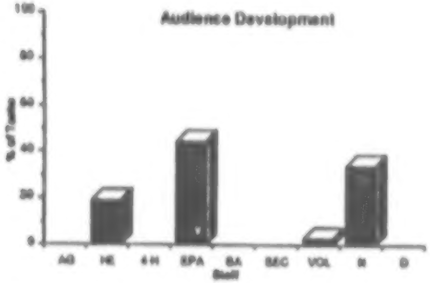
CODES:
- Ag - Ag Degreed Person
- HE - Home Ec Degreed Person
- 4-H - Youth Agent
- EPA Extension Program Assistant
- SA - Student Work Study/Summer Assistant
- Sec - Secretary
- Vol - Volunteer
- N - Not part of program
- D - Dropped due to small staff size

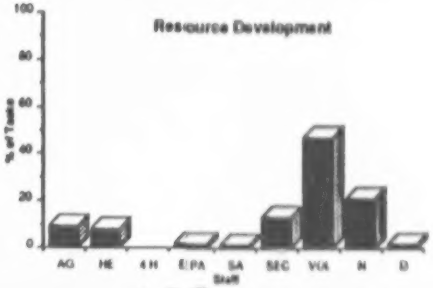


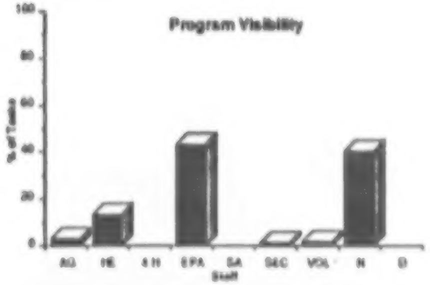


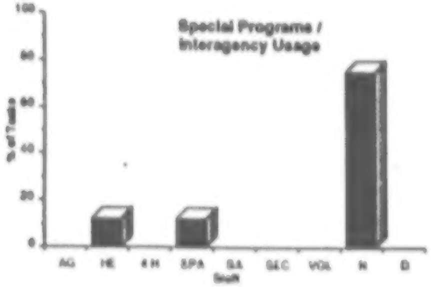










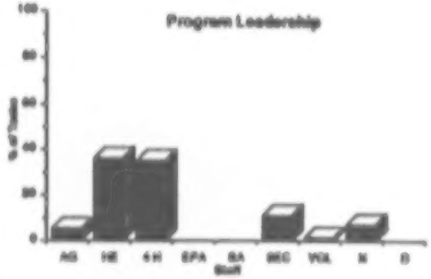


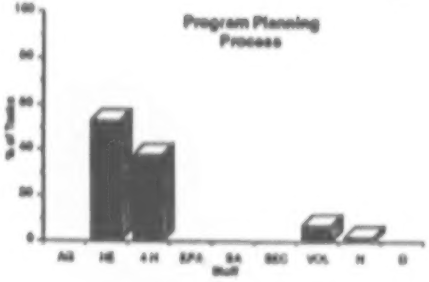
PERCENT OF GENERAL PROGRAM OPERATION TASKS

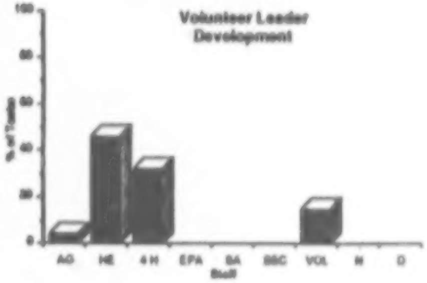
PERFORMED BY PAID AND VOLUNTEER STAFF

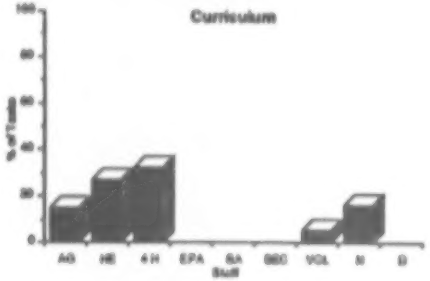
Type II Counties

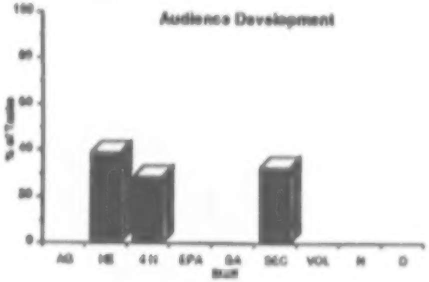
CODES:
- Ag - Ag Degreed Person
- HE - Home Ec Degreed Person
- 4-H - Youth Agent
- EPA Extension Program Assistant
- SA - Student Work Study/Summer Assistant
- Sec - Secretary
- Vol - Volunteer
- N - Not part of program
- D - Dropped due to small staff size

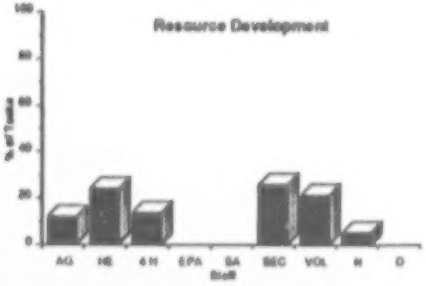

Program Leadership

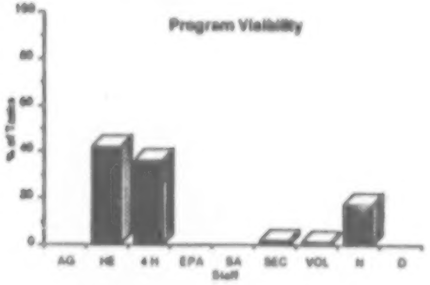

Program Planning Process

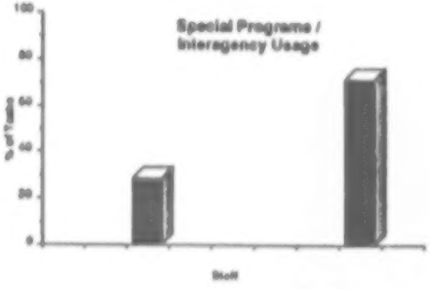

Volunteer Leader Development


Curriculum


Audience Development


Resource Development

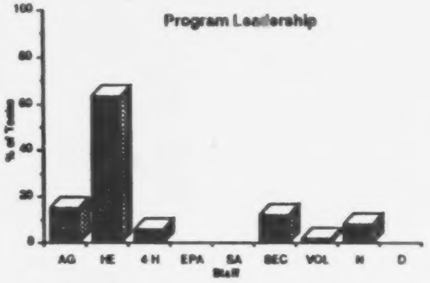

Program Visibility

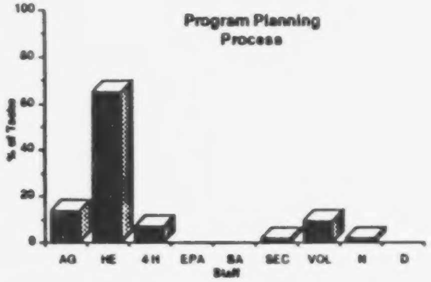

Special Programs / Interagency Usage

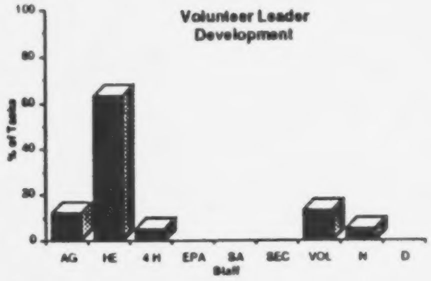
PERCENT OF GENERAL PROGRAM OPERATION TASKS PERFORMED BY PAID AND VOLUNTEER STAFF

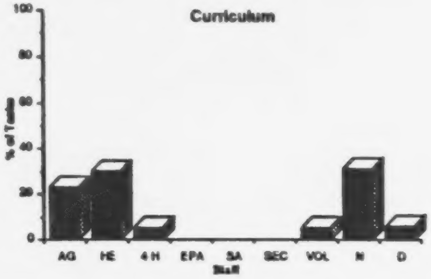
Type III Counties

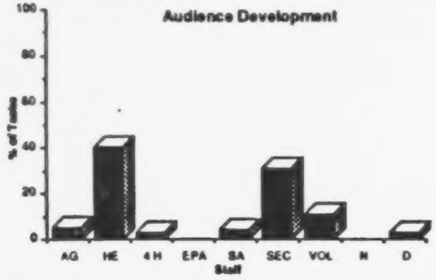
CODES:
- Ag - Ag Degreed Person
- HE - Home Ec Degreed Person
- 4-H - Youth Agent
- EPA Extension Program Assistant
- SA - Student Work Study/Summer Assistant
- Sec - Secretary
- Vol - Volunteer
- N - Not part of program
- D - Dropped due to small staff size

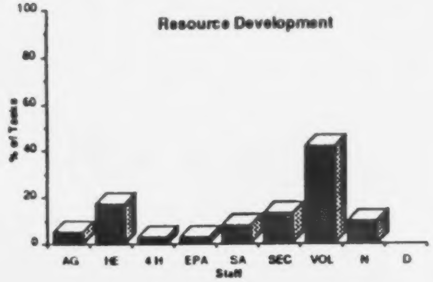


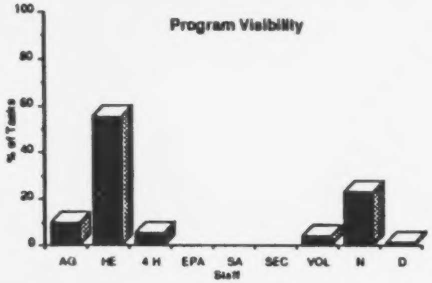


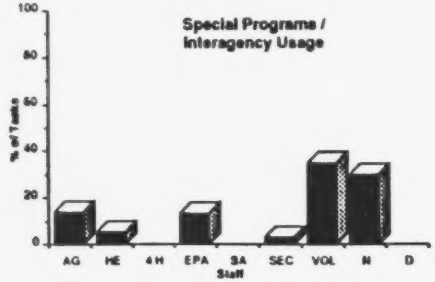












Resource Development Tasks

- In Type II & III counties, volunteers are doing over 40% of the Resource Development tasks; whereas in Type II counties, secretaries are performing 26% of the Reseource Development tasks.

Program Visibility Tasks

- In both Type I and III counties, volunteers are performing between 42% and 47% of the program visibility tasks. Whereas in Type II counties, the secretary is performing 26% of these tasks.

Special Programs/Interagency Linkage Tasks

- In Type I and II counties, over 70% of the Special Program/ Interagency Linkage tasks are not being done. In Type III counties, 46% of these tasks are not being performed.

4-H Project Implementation

4-H projects and the activities related to them are a base of the 4-H curriculum. The tasks related to 4-H project implementation cover a broad spectrum from overall project coordination, organizing project workshops and fair activities to answering phone calls. A summary of the percent of 4-H project implementation tasks performed by paid and volunteer staff for each type of county is on the next three pages.

- In all three types of counties, between 30% - 92% of the project implementation tasks are not getting done. The majority of tasks not being done include:
  - organizing and conducting project workshops
  - training project leaders

Summary of
Staff Performing the Most 4-H Project Implementation Tasks

	Staff Person performing Most Tasks		
Project Area	Type I	Type II	Type III
Animals	VOL	VOL	AG
Plant Science	VOL	HE	VOL
Mechanical Science	VOL	HE	HE
Natural Resources	VOL	HE	HE
Economics,Jobs,Careers	AG	AG	HE
Citizenship	HE	HE	HE
Leisure Education	EPA	HE	HE
Health, Safety	EPA	HE	HE
Indiv./Family	EPA	HE	HE
Communication Arts	EPA	HE	HE
Intro./General	EPA	HE	HE

- In 33% of the Type I counties, the Ag Degreed agent answers animal related project phone calls. Whereas in 15% of Type II counties and 31% of III counties, the Home Ec Degreed agent answers the phone calls.

- With the exception of the animal and the economics, job and career projects, the Home Ec Degreed agent coordinates all projects in a more counties than the Ag degreed agent.

- With the exception of animal and the economics, job and career projects, the Home Ec Degreed agent answers the phone calls in all project areas in more counties than the Ag degreed agent.

RECOMMENDATIONS

Organizational Structure

1. Administrative staff should meet with counties which indicated that Extension Program Assistants were working more than 40 hours a week. Investigate how job contract is written concerning overtime and determine if there is a violation and possible legal ramifications.

2. Re-evaluate the percent of time assigned to each program area for both the Ag and the Home Ec degreed agent since the actual time spent is not consistent with the assigned time.

Suggested Organizational Structure for Percent of Time Assigned to Each Program Area

County Type	Ag Degreed			Home Ec Degreed			EPA	
	Ag	4-H	CED/CD	HE	4-H	CED/CD	4-H	HE
Type I Ag CED	60%	20%	20%	60%	40%	---	100%	
HE CED	60%	40%	---	60%	20%	20%	100%	
Type II Ag CED	60%	20%	20%	40%	60%	---		100%
HE CED	40%	60%	---	40%	40%	20%		
Type III Ag CED	50%	30%	20%	50%	50%	---		
HE CED	50%	50%	---	50%	30%	20%		

NOTE: Non CED agent has major leadership for 4-H program and supervision of EPA

General 4-H Program Operation

1. A professional agent should have the major role in directing the rest of the staff in:
   a. Program Leadership Tasks
   b. Program Planning Process Tasks
   c. Volunteer Leader Development Tasks
   d. Curriculum Development Tasks
   e. Special Programs/Interagency Linkages

2. Specifically a professional agent should perform the following tasks under these categories.

   a. **Program Leadership**
      - coordinate all phases of 4-H/youth program
      - conduct 4-H needs assessment
      - set long term goals for program direction
      - design committee structure for 4-H program
      - maintain relationships with and between all committees
      - supervise Extension Program Assistant
      - evaluation of Extension Program Assistant

   b. **Program Planning Process**
      - determine delivery modes for county 4-H programs
      - write Plan of Work (POW)
      - conduct 4-H Program Evaluation
      - write Annual 4-H Accomplishment Report
      - report 4-H accomplishment at Annual meeting

   c. **Volunteer Leader Development**
      - design and conduct orientation and training for new leaders (after design phase is completed, professional can train the EPA or volunteer to actual conduct training)
      - work with 4-H Advisory Group
      - work with fairboard

   d. **Curriculum**
      - develop and evaluate educational materials for club use
      - teach volunteers how to work with youth
      - provide subject matter expertise for projects

   e. **Special Programs/ Interagency Linkages**
      - consult with other youth organizations

4. Regardless of who performs the rest of the tasks, the professional agent is ultimately responsible for the program.

5. Utilize volunteers in more tasks.

6. State 4-H specialists should investigate alternative ways of conducting judging and camping programs, so that downsized counties can easily participate.

4-H Project Implementation

1. Because of subject matter expertise, the major responsibility for the 4-H projects should be distributed as follows:

Ag Degreed Agent	Home Ec Degreed Agent
Animals	Citizenship/Community Inv.
Plant Science	Leisure/Cultural Education
Mechanical Science	Health/Safety
Natural Resources	Indiv./Family
Economics/Jobs/Careers	Communication Arts
	Intro./General

2. Specifically a professional agent should perform the following tasks under each project category:
   - coordinate project direction and activities throughout the whole year
   - meet with committees to design, organize and conduct project workshops and other activities
   - answer phone calls

3. State 4-H Specialists should provide more training and lesson plans for project leaders to improve the project implementation at the county level.

DETERMINING THE DEGREE OF SUCCESS OF 4-H SUMMER CAMP PROMOTION AND PROGRAMMING

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INTRODUCTION

4-H Summer Camp is a popular and important 4-H activity. It is held annually for one week in the summer at one of two New Jersey 4-H Outdoor Education Centers. In the state, the camp program is regarded by many 4-H professionals as more than just a obligatory traditional event but instead, as a meaningful learning experience for children, 9-13 years of age, who attend as campers. Camp also provides leadership training for counselors, ages 16 and up, and C.I.T.'s (campers who are 14 or 15 years of age and members of 4-H and participate in a counselor-in-training program before and during camp). With the exception of support staff and a few instructors who reside at camp all summer, the week's program is determined by the county in attendance and conducted by the county 4-H agents and counselors, who are trained by the agents.

In Somerset County, 4-H Summer Camp is open to non-4-H members as well as members. A variety of promotional methods are used to recruit campers throughout the year. At camp, campers who are not 4-H members are recruited to join 4-H. Thus, camp is not only an educational delivery mode, but also a recruitment tool.

Officially, the objectives of the camp program are to: have fun; learn about the outdoors; learn to live, work, and play with others; learn self-reliance; learn some new skills and interests; and to introduce non-members to the 4-H program. To accomplish these objectives, various efforts were made before, during, and after camp — and a variety of activities and features were part of camp, including workshops/crafts, swimming, boating, hiking, horseback riding, group dynamics/team-building activities, individual and team sports, performing arts, awards/recognition, and inspirational/patriotic programs. A pre-camp camper orientation was offered and non-4-H members were invited to a county-wide 4-H Open House after camp. Most likely resulting from increased frequency, variety and quality of promotion, and the promise of a quality program, camp enrollment increased by eight percent in 1988, with the highest total enrollment in at least three years.

PURPOSE AND OBJECTIVES

The primary purpose of this study was to determine how well the objectives of the camp program were met. Specific objectives included determining what campers learned by attending camp (through changes in levels of knowledge and skills), how campers found out about camp, who or what convinced them to register, why they came to camp, if non-4-H members learned about 4-H by attending camp and were interested in joining 4-H, to describe the children attending camp, and to determine their opinions concerning the camp program. This information would be helpful in determining the degree of success of the camp program and camp promotional efforts, and in suggesting improvements for future endeavors.

PROCEDURES

This study employed both descriptive survey research and pre-experimental methodology. A pre-test and post-test was used with a self-selected group (all campers choosing to register for and attend the 1988 Somerset County 4-H Summer Camp, held July 18-23 at the Beemerville 4-H Camp). No control group was available. All 119 campers (including six C.I.T.'s) who completed the week at camp participated in the study.

Portions of the camp application and camp evaluation questionnaire were the same, and used for the pre-test and post-test, respectively. These questions compared the camp-related knowledge levels and skill levels of campers before and after attending the camp week. Besides the administrative information requested, both the camper application and after-camp evaluation (administered the final day of camp) asked for other information to address the study's objectives. Questions were reviewed by other 4-H professionals and/or had been field-tested through use in previous (including other counties') camp evaluation questionnaires.

The six knowledge-measuring questions asked campers to tell how much they knew about the following: how to enjoy the outdoors, about caring for animals, the 4-H pledge, kids not in your school, 4-H, and water safety. Thus, the questions measured perceived knowledge. Campers were asked to circle their response to each question, on a scale of 1 (none) to 6 (quite a lot).

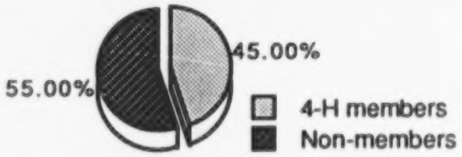
The 13 skill-measuring questions asked campers how well they could do the following: canoe or row a boat, set a table, make friends, raise and respect the flag, work with other kids, get along away from home, play on a team, swim, make something with your hands, ride a horse, follow directions, try something new, feel good about yourself. Thus, the questions measured perceived skill levels. Campers were asked to circle their response to each question, on a scale of 1 (very poorly) to 6 (very well).

Frequencies, percentages, modes, and means were used to organize and describe the data. Pre-test and post-test scores were compared in two ways. Differences in mean scores for the group were compared and the frequency and percent of individuals gaining, declining, and staying the same in skill and knowledge levels were calculated.

Before considering the results of this study, weaknesses in the study should first be pointed out. Since no control group was used, there is no way to guarantee that gains in knowledge and skills resulted from the treatment (attending camp). This was the first time this study was conducted. In the future, a comparison group, made up of youth not attending the Somerset County 4-H Camp week, may be added to determine if those attending developed skills and knowledge which youth not attending did not develop during the same time period. Furthermore, a question will be added to the camp evaluation form asking if youth attending the Somerset County 4-H Camp week had attended any other camps since completing the pre-test (camp application). This will allow the measurement of differences of skills and knowledge gained among youth who attended only Somerset County's camp week, those who attended other camps as well, and those who didn't attend any camp during the same time period. In regard to the descriptive aspects of this study, however, the results are completely valid. For instance, descriptions of respondents and their reports of how they learned about camp were appropriate means to address specific objectives of this study.

RESULTS

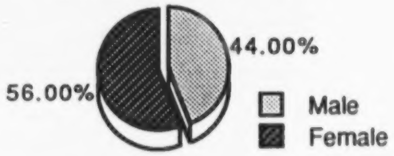
A total of 116 campers registered for camp, completed the pre-test, completed camp, and completed the post-test. (Three campers left camp prior to camp's conclusion for health, personal, or discipline reasons.) 55 percent of campers were not 4-H members. Campers had attended camp an average of 1.6 times, with the most campers (64 percent) attending one year. The average age of campers was 11 years (27 percent of campers). 56 percent were female.



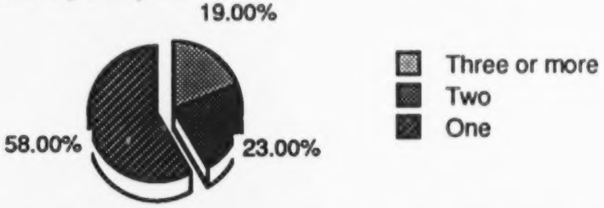
4-H membership status of campers

Of the 59 campers who were not 4-H members, 71 percent said that they learned more about 4-H by attending 4-H Camp, and 47 percent said they would like to join a 4-H club. Respondents were able to select all ways they found out about camp. Most campers found out about camp through a friend (32 percent), newsletter/mail (27 percent), 4-H leader (16 percent), and parent (15 percent). Campers found out about camp from an average of 1.7 sources, with the most from one source (58 percent). 23 percent used two sources, and 19 percent used three or more.

Gender of campers

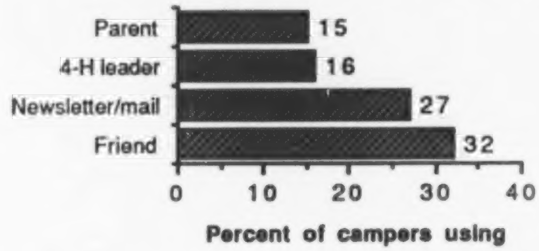


Number of sources of information about camp used by campers



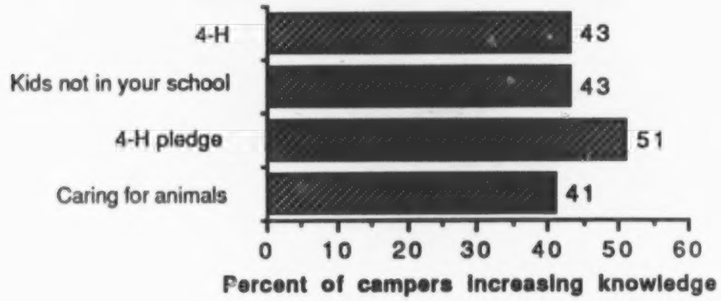
Parents were most often (33 percent) reported as who/what convinced campers to sign up, and friends were second most often (30 percent). 95 percent of campers reported that they received enough information about how to sign up for camp, what to expect, etc. The highest percent (47) of campers reported they came to camp for reasons related to fun and/or friendship. 70 percent of campers said they would like to come back to camp next year, and 15 percent said maybe.

Sources of information about camp



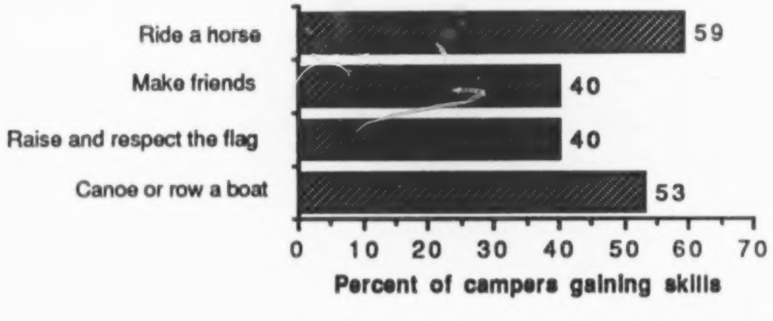
More campers increased their knowledge than decreased or experienced no change in the following areas: about caring for animals (41 percent), the 4-H pledge (51 percent), kids not in your school (43 percent), 4-H (43 percent).

Knowledge gained by campers



More campers increased their skills than decreased or experienced no change in the following areas: canoe or row a boat (53 percent), make friends (40 percent), raise and respect the flag (40 percent), ride a horse (59 percent). Other areas of knowledge or skill development were found to have no net increases in levels.

Skills gained by campers



CONCLUSIONS AND RECOMMENDATIONS

The camp program can be made as educational as the program director wants it to be and works toward achieving this philosophy. The program must be planned with camp's objectives in mind. Evaluation can be conducted to determine how well these objectives were met. Camp is a particularly good delivery mode to teach some important life skills, and offer the opportunity of being in an outdoor setting. A major risk of camp as an educational delivery mode, or any others which concentrate people for an extended period of time, is that bad habits can be shared and learned potentially as readily as positive ones. That is why well-trained counselors are essential to make sure every aspect of camp is organized carefully, a positive environment is maintained, and educational goals are promoted and achieved.

Promotion of camp can be an effective means to gain more campers. Promotion seems to be more effective when done constantly using a variety of channels, not just right before applications are due. Knowing that most campers found out about camp from just one source emphasizes the need to use many different types of promotion. Using too few types runs the risk of missing someone who didn't happen to be exposed (or influenced by) the few used. There might also be a threshold level of exposure to promotion before the method is recognized.

Whatever promotion is used, it must communicate a positive and accurate image of camp. Considering a major source of information about camp and influence to attend camp came from family, friends, and other people; in-person, word-of-mouth promotion is very important. Since parents, specifically, were major sources of information and influence, then camp recruitment efforts need to be directed toward them. Less detailed, enthusiasm-generating methods probably work well for kids and more detailed information and assurance is desired by parents. All communication should be clear and geared to the audience it is targeted for. Printed materials should be attractive, well-organized, and written at the appropriate reading level.

Camp can also be used as a good tool for recruiting 4-H members. Prompt follow-up to get non-members to join a 4-H club is essential to maintain their interest after attending camp. Evaluation of camp helps determine its success at meeting its objectives. Effective evaluation can be an integral part of routine tasks and be an unobtrusive measure of changes in knowledge and skill levels of campers. Findings, if used, lead to maximizing the effectiveness of camp as an educational delivery mode which attracts a large number of youth to 4-H.

4/17/89

DETERMINING THE DEGREE OF SUCCESS OF 4-H SUMMER CAMP PROMOTION AND PROGRAMMING

Keith G. Diem

Stacy A. Gartin, West Virginia University--Discussant

The camping program developed and utilized by the 4-H component of the Cooperative Extension Service is an example of one way in which the Extension Service attempts to build young people socially, technically and educationally. Evaluation of such programs is vital to the existence and mission of the 4-H Program. In order to properly evaluate the value of such activities, formative as well as summative evaluation needs to take place in order to find out whether the 4-H Camps are meeting their objectives. The author is to be commended for selecting a facet of the 4-H Program that needs evaluation.

Questions and Concerns

The purpose and objectives of the study were clearly stated. The author indicated the a pre-experimental design of pretest/posttest would be used. When one utilizes an instrument to study the objectives of such a camp that relates to social, educational and promotional activities, it is extremely important that concern is given to the reliability and the validity of the instrument itself. A test/retest coefficient, or the results of the validation study, which indicated that the instrument itself was a reliable and valid measure of the selected content would have been beneficial. Even though the instrument had been field tested with 4-H professionals, it appears that numerous questions were extremely general in nature. It was noted that a 6 point Likert type scale was used to measure the perceived knowledge of campers. In addition, the instrument utilized a 6 point Likert type scale to measure how well the campers could perform specific skills.

The researcher indicated that frequencies, percentages, modes and means would be used to describe his total population, as well as differences and mean scores would be compared. May I remind the researcher that in utilizing a total population parameters are most appropriate in describing your population. It was not clear how the differences in mean scores would be compared. The author is to be commended for doing an excellent job of sharing the results in a very concise and appropriate manner. However, one may ask questions of the 4-H Program as described by the results. The researcher indicates more campers increase their knowledge than decreased or experienced no change. It was also noted more campers increased their skills than decreased or experienced no change. However, in looking at percentages one can also be concerned with the opposite in saying that between 41% and 60% of the students did not have an increase in knowledge and skills. The researcher utilized a one group pretest/posttest design where possibly he should have used a two nonequivalent groups. Campers who have attended the camp previously versus those attending for the first time. The researcher may still want to reanalyze his data and compare new campers with old campers.

SESSION C (POSTER SESSIONS)

May 17, 1989

TWO PRACTICAL APPROACHES TO ANALYZE QUALITATIVE DATA

by

THOMAS ARCHER

MONEY MANAGEMENT EDUCATIONAL NEEDS OF EXTENSION HOME ECONOMISTS

by

CATHY FAULCON BOWEN AND JOAN GRITZMACHER

THE COOPERATIVE EXTENSION GAME

by

LYNNETTE BRUBAKER

DETERMINING STAFF DEVELOPMENT NEEDS OF PENNSYLVANIA 4-H PROFESSIONALS

by

PATRICK CARROLL

USE OF SATELLITE TV IN EXTENSION EDUCATION

by

JULIA A. GAMON

DETERMINING THE ECONOMIC WORTH OF VOLUNTEERISM

by

VICKI GENOFF

Analyzing Qualitative Data

What are Qualitative Data?

Qualitative data are words, not numbers. Qualitative procedures of data collection produce narrative information. While narrative information could be converted into numerical categories, such a process would defeat the purposes of the true qualitative evaluator.[1]

Qualitative procedures tend to capture broader and more open-ended perspectives about complex phenomena. However, these data are often harder to analyze and summarize.

Qualitative evaluators attempt to expand rather than confine understanding. They do not necessarily try to resolve ambiguity. Rather, they seek to study a concept as it is understood in the context of all those who use it. The Qualitative evaluator is concerned with multiple realities rather than a single reality.[2]

Some Qualitative Collection Procedures[1]

- **Wear and tear analysis.** Apparent wear or accumulation on physical objects.
- **Physical evidence analysis.** Residues or other physical by-products are observed.
- **Case studies.** The experiences and characteristics of selected persons in a project.
- **Individual interviews.** Individual's responses and views.
- **Group interviews.** Small groups' responses and views.
- **Panels, hearings.** Opinions, ideas.
- **Records analysis.** Records, files, receipts.
- **Logs.** Own behavior and reactions recorded narratively.
- **Simulations, "In baskets."** Person's behavior in simulated settings.
- **Sociograms.** Preference for friends, work and social relationships.
- **Systems analysis.** Components and subcomponents and their functional inter-dependencies are defined.
- **Advisory, advocate teams.** The ideas and viewpoints of selected persons.
- **Judicial review.** Evidence about activities is weighed and assessed.

Qualitative vs. Quantitative Analyses

Quantitative data collection requires more preparation time, the analysis does not begin until all data is collected, and the findings are suitable for computer-generated table displays and comparisons.

Qualitative data collection flows more with the context in which the data is collected. Once data collection begins, analysis begins, making the analysis process an integral part of the latter stages of data collection. Computer programs can assist in making groupings of similar phrases.

Four Levels of Analysis

Analysis and interpretation of qualitative data are not simple, technical processes. There are no formal, universal rules to follow in analyzing and interpreting qualitative data. ANALYSIS is the process of bringing order to the data, organizing what there is into patterns, categories and basic descriptive units.

INTERPRETATION involves attaching meaning and significance to the analysis, explaining descriptive patterns, and looking for relationships and linkages among descriptive dimensions.[1] From this point, it is up to the stakeholder to make JUDGEMENTS about and assigning value to what has been analyzed and interpreted.

In any evaluation effort it is helpful to look at four distinct levels. Viewing what has been found and what could be the possibilities allows the evaluator and stakeholder to disagree on Interpretations, Judgements and Recommendations without ever putting the Findings in jeopardy.

- **Findings.** What was said by the participants.
- **Interpretations.** What the findings mean to the evaluator.
- **Judgements.** Are the findings of value to the stakeholder?
- **Recommendations.** What should the stakeholder do?

Qualitative Analysis

Qualitative data analysis is the process of systematically searching and arranging the interview transcripts, fieldnotes, and other materials accumulated to increase the analyst's understanding of them and to enable the analyst to present what was discovered to others.[3]

Focus Group Interviews, Individual Interviews, Open Ended Questions and other types of non-numerical data collection techniques yield qualitative findings. These consist of opinions and ideas that are expressed and endorsed with varying degrees of intensity and with varying levels of agreement.

Using observers' notes and reviewing tapes, themes and ideas are collected and organized by topic. The presentation of the findings is an attempt to convey both generally expressed convictions as well as specific ideas relevant to the topic under discussion.[4]

Characteristics of qualitative analysis:[3]

- It begins as soon as data collection begins, and it continues until the project is finished in the eyes of the stakeholder.
- Analyst must be willing to adequately devote the time and other resources to the successful completion of a qualitative analysis process.
- The more skilled people in the process, the better.
- Process must be well defined and repeatable (clear, verifiable, replicable).
- It is involved and intricate. It involves words, context in which those words were spoken, body language, people who change answers, responses that are sometimes unique and hard to categorize.
- It is fun!

Two approaches to qualitative data analysis:

- **"Scissor and sort."** This method is a technically sound approach to Qualitative Analysis. It is used when extremely detailed and fine-tuned analysis is needed. It receives its name from the process of taking volumes of pages of Qualitative data, coding them by passages, cutting the pages by these coded passages, and then sorting the passages of similar codes into files or envelopes of like code.

This method is expensive in terms of both time and money. It may also lose part of the data if the process involves only reading, coding, cutting and sorting passages, with no listening to transcripts.

The advantages of this method are that it leaves the material mostly intact, and very seldom is anything given only a cursory look. It can also be imaginative as coding schemes are developed.

The "scissor and sort" process:

(1) Transcribe tapes.
(2) Edit.
(3) Code.
(4) Bracket.
(5) Dissect transcriptions.
(6) Group common topics.
(7) Write connective material.
    a. Describe purpose of the study
    b. Major research questions to be answered.
    c. Description of subjects.
    d. Description of the qualitative process employed.
    e. Summary of results.
    f. Main findings:
        1. First major topic.
        2. Quotes which are relevant.
        3. Summarize and discuss.
        4. (Add interpretations/judgements/recommendations).

- **Integrated.** This is a practical approach to analyzing Qualitative data in the sense that the costly transcription process is eliminated while the real "Quality" of the data is gained through listening and re-listening to tapes recordings of recorded data.

The major disadvantage of this process is that it requires much time during the listening process. It also proceeds better if there is more than one person involved with the analysis. Since this analysis process requires large blocks of time, scheduling two or more analysts for this purpose may prove to be difficult. Another drawback to some analysts is that it depends largely on the use of a micro-computer and corresponding word processing skills.

The obvious advantages of the Integrated approach to qualitative data analysis is that it adds validity to the process by involving at least two people. Through the use of a word processing program on a micro-computer, the analyst can easily sort and categorize quotes and emerging themes as the dialogue develops on the tape. By listening to tapes, one does not lose the feeling, mood or context in which a statement or reaction was made.

The integrated analysis process:

(1) Involve more than one person in the analysis process.
(2) Utilize field notes as a guide to the taped dialogue.
(3) Listen to tape as a team. Discuss the emerging themes, re-listening if necessary, to gain consensus on what is being said, and to develop categories for themes and trends that emerge.
(4) Utilize a micro-computer while listening to the tape to record only those relevant quotations, with appropriate headings, and to move passages of similar text to contiguous points in the analysis summary. Such a process greatly reduces the amount of "transcription" necessary, while clarifying what was said, while it is being said.
(5) In addition to noting and reporting the common themes, keep track of unique responses as well as ideas and insights which arise among the analysts as the process develops.

Try to keep track of the environment in which statements were made and the frequency of individual responses. Also try to determine how strongly opinions and ideas are held by the subject(s).

(6) Group common topics.
(7) Write connective material.
    a. Describe purpose of the study.
    b. Major research questions to be answered.
    c. Description of subjects.
    d. Features the Qualitative process employed.
    e. Summary of results.
    f. Main findings:
        1. First major topic.
        2. Quotes which are relevant.
        3. Summarize and discuss.
        4. (Add interpretations/judgements/ recommendations).

Qualitative Analysis Issues

■ **Coding.** Codes are an attempt by the qualitative analyst to compress volumes of the written word into concise, more manageable terms. It is integral in the process of data reduction and data display of the qualitative analysis process. Attempts are made to develop coding schemes with a limited number of categories.

Advantages of coding include being able to more readily manipulate the data, and to more easily communicate findings.

However, coding schemes are difficult to develop. There is always the reality of losing important information by compressing two or more coding categories into one.

At no time in a coding process of qualitative data should words be converted to numbers. Quantifying qualitative data defeats the purpose of qualitative analysis.

■ **"Clean Up" Data or "As Is."** When listening to people talk it is quite evident that almost no one talks in complete sentences or grammatically perfect. Therefore, the issue surfaces during transcription and analysis whether to forge the spoken word into writings that are acceptable. It appears that the best representation of a taped interview are words actually spoken. Any manipulation, just to make the printed material grammatically correct, may either inject misinterpretation on the part of the analyst, or may not be as accurately received by the user of the evaluation. Therefore, it is recommended that quotes be left "as is."

Traps and Pitfalls

■ **Generalizability.** Usually, the results of the qualitative study are obtained from a small sample of subjects who may have been identified by selective means. Therefore, qualitative studies do not lend to generalizing results to populations.

■ **Personal bias.** To say the least, qualitative analysis is subjective. Before the qualitative analyst begins, he/she should determine self opinions, conceptions, ideas, etc., so that care can be take not to "find what is wanted to be found." Evaluators have a responsibility to study themselves, to examine their own predispositions, and to make those predispositions explicit. This will allow them to consider the extent to which their observations and analyses have been distorted by conscious or unconscious predispostions.[5]

■ **Speculating causality.** The cardinal principle of qualitative analysis is that causal relationships be clearly emergent from and grounded in the data. The relationship emerges from the data; it is not imposed on it.

Reporting Qualitative Data

The report outline:[3]

I. Purpose of the evaluation.
    a. Context of the evaluation.
    b. Evaluation focus.
II. Methods decisions.
    a. Appropriateness of methods
    b. What design and sampling decisions were made, for what reasons, and with what consequences?
III. Presentation of the data.
    a. Descriptive information about the program.
    b. Description of findings organized around evaluation questions, issues, and concerns generated by decision makers and information users.
    c. Analysis of the data.
    d. Interpretations and explanations.
IV. Validation and verification of findings.
    a. Details about actual implementation of methods and reporting on any departures from expected procedures. How was the study done? How were the data actually collected?
    b. Credibility of the findings.
V. Conclusion and recommendations.
    a. What are the basic findings?
    b. What are the implications of the findings?
    c. What are the recommendations?

Bibliography

1. Brinkerhoff, Robert O. et al, *Program Evaluation: A Practitioners Guide for Trainers and Educators—Sourcebook*, Kluwer-Nijoff Publishing: Boston, 1983.

2. Bogdan, Robert C., and Biklen, Sari Knopp, *Qualitative Research for Education: An Introduction to Theory and Methods*, Allyn and Bacon: Boston, 1982.

3. Krueger, Richard, "Characteristics of Qualitative Analysis," Presentation at Ohio Cooperative Extension Service State In-Service, Columbus, OH, September, 1987.

4. Miles, M.B. and Huberman, A.M., *Qualitative Data Analysis: A Sourcebook of New Methods*, Sage Publications: Beverly Hills, 1984.

5. Patton, Michael Q., *Qualitative Evaluation Methods*, Sage Publications: Beverly Hills, 1980.

6. Sessions, Joan T. "Desirable Characteristics of a Counselling Agency," Paper presented at American Evaluation Association Annual Meeting, Boston, MA, October, 1987.

Author

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MONEY MANAGEMENT EDUCATIONAL NEEDS OF EXTENSION HOME ECONOMISTS

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RATIONALE

Money management is a concern of individuals and families of all income levels. In recent years, extension educators have been charged by national extension guidelines to emphasize this area (United States Department of Agriculture, 1988). Several researchers have documented, however, that financial management is an area in which extension home economists often lack expertise (Lown, 1985; Stephenson, 1986; Ussery, 1964). Other researchers (McKenna & Nickols, 1986; Ulrichson & Hira, 1985) have suggested that extension educators are in a good position to provide money management information to individuals who are not reached by private businesses or other public education agencies.

PURPOSE

The primary purpose of this study was to determine areas of money management in which county extension home economists needed additional training.

METHOD

Seven areas of money management that had been previously validated by a panel of experts were investigated in this study: budgeting, consumer financial services, consumer credit, risk management, retirement, estate planning, and investments. The Borich Model of Needs Assessment (Borich, 1980) provided the foundation for the instrumentation and data analysis procedures used in the study. The instrument was pilot tested in four states and then reviewed by an Extension evaluation specialist and home economics district specialists. The instrument was then used to collect data from the population of county home economics agents in a midwestern state. Ninety-three percent of the agents responded to the survey.

FINDINGS

- Few agents had received formal training (classes) in areas of money management. Agents with formal training tended to be recent graduates of a degree program.

- Most agents had attended one or more workshops on financial management during the past five years.

- Budgeting was the area that agents perceived to be most important to their job responsibilities. The agents also perceived themselves to be most knowledgeable and capable of teaching budgeting.

- Discrepancy scores indicated that high priority areas for training are estate planning, risk management, and retirement.

CONCLUSIONS

- Agents need additional training in the areas of estate planning, risk management, and retirement.

- Agent training is not needed in the area of budgeting.

REFERENCES

Borich, G. D. (1980). A needs assessment model for conducting follow-up studies. Journal of Teacher Education, 31(3), 39-42.

Lown, J. M. (1985). Financial management information need: Help for financial problems. American Council of Consumer Interest Proceedings, 252-257.

McKenna, J. & Nickols, S. Y. (1986). Retirement planning strategies for midlife women. Journal of Home Economics, 78(4), 34-37.

Stephenson, M. J. (1986). Extension's role in the financial service industry. A Model project (Summary). American Council of Consumer Interest Proceedings, 32nd Conference, 219.

Ulrichson, A. & Hira, T. K. (1985). The impact of financial problems on family relationships. Family Perspective, 19(3), 177-187.

United States Department of Agriculture. (1988). Cooperative Extension system national initiatives. Family and economic well-being. Washington, DC.

Ussery, M. (1964) An analysis of the educational needs of county extension agents in Tennessee. Dissertation Abstracts International, 24, 3726.

Poster Session

The Cooperative Extension Game

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Cooperative Extension and its complexities is not totally understood by the public. Many people know about Extension programs, yet may have little perception of the whole organization. Following a literature review of simulation games' designs and their educational effectiveness, a specific game was designed about Cooperative Extension. The Cooperative Extension Game demonstrates the program planning process and provides participants with background information about Cooperative Extension.

Audiences:

- Newly formed or established advisory committees
- 4-H groups (volunteers, members)
- New extension employees
- Undergraduate/graduate students

The game has been designed for a number of teams to play at one time (5-6 persons/team). A 1 1/2 hours game session is needed for effective participation and debriefing. A facilitator knowledgeable of Extension is required for the gaming session. Other game items needed are: a gameboard, cards, a die, and a tally sheet. The Cooperative Extension Game provides an alternate technique to increase the public's awareness of the Extension system.

To receive a copy of the game, please send your name, address, and $4.00 to Lynnette Brubaker, 110 Armsby, University Park, PA, 16802.

Determining Staff Development Needs of Pennsylvania 4-H Professionals

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Purpose

The primary purpose of this study currently in process is to determine areas of professional competence in which county 4-H agents in Pennsylvania need additional training.

Objectives

The following set of objectives were formulated for the study:

1. To determine Pennsylvania 4-H professionals' perceived relative importance in 25 key skill areas derived from the 4-H Professional Research and Knowledge Taxonomy (4-H PRK), and two skill areas relating to youth issues programming.

2. To determine Pennsylvania 4-H professionals' perceived relative educational needs in 25 key skill areas derived from the 4-H Professional Research and Knowledge Taxonomy (4-H PRK), and two skill areas relating to youth issues programming.

3. To determine if there is a relationship between the number of years as a 4-H professional, educational background, region, type of county, the agent's primary program responsibility, and Pennsylvania 4-H professionals' perceived relative importance and educational needs in 25 key skill areas derived from the 4-H Professional Research and Knowledge Taxonomy (4-H PRK), and two skill areas relating to youth issues programming.

4. To determine Pennsylvania 4-H professionals' preferred methods and strategies for learning the identified skills.

Need for the Study

The following contribute to the need to determine the staff development needs of 4-H professionals in Pennsylvania:

- "Youth at Risk" added to National Initiatives
- Many new county 4-H staff
- Increase in multi-county programming
- New program responsibilities
- College of Agriculture administrative reorganization
- Human resources emphasis
- Replicate study by Roger Rennekamp (1987)

Population

A census of all extension agents in Pennsylvania with 4-H responsibilities.

Design of the Study

The study will be descriptive survey research. Rennekamp's instrument will be used with two items added. The Borich Model of Needs Assessment (1980) will guide the instrument development, data collection and analysis. Borich viewed training needs as the discrepancy between what is and what should be.

The study will be completed by August, 1989. Recommendations to revise inservice programs to reflect needed competencies will be proposed.

References

Borich, G.W. (1980). A needs assessment model for conducting follow-up studies. Journal of Teacher Education, 21(3), 39-42.

Rennekamp, R.A. (1987). The relationship between selected antecedent characteristics and the perceived educational needs of Extension agents with 4-H youth development responsibilities. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Tips on the Use of Satellite TV in Extension Education

Program Content

* ***Planning*** - Include some members of the intended audience when making plans for the satellite program.

* ***Length*** - Break programming into short segments. People are used to watching TV in short doses.

* ***Local Programming*** - Plan carefully what will go on at down-link sites before and after the satellite program. Suggest discussion questions, local speakers, and local demonstrations. Provide hand-outs and resource lists.

* ***Studio Audience*** - Have a live audience and include shots of them to add interest to the satellite presentation.

* ***Panelists*** - Maximum number of panelists is four. More than that and the audience has difficulty remembering who is who and why are they on the panel.

Downlink Sites

* ***Convenient*** - Identify target audience and how far they are willing to travel.

* ***Hosts*** - Find those people who are interested in the topic. Businesses, community colleges and private individuals are all possibilities in addition to extension offices.

* ***Prices*** - Find out beforehand what the downlink charges will be.

* ***Extra Sites*** - Publicize the transponder number widely enough so that anyone interested who has a dish may see the program.

Call-In Programs

* ***Sites*** - If there are a large number of sites, limit the call-in capability to just part of them.

* ***Questions*** - Consider having the questions called in off the air so that they may be sorted and screened.

* ***Help*** - Line up people to answer the phones and help sort the questions.

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METHODS OF DETERMINING THE ECONOMIC VALUE OF VOLUNTEER SERVICES

The importance and need for nonprofit organizations to demonstrate cost effectiveness has increased due to political and economic pressures. In order for managers of voluntary organizations to demonstrate accountability and cost effectiveness of volunteer programs, an economic value must be determined for volunteer labor. This section will focus on the frequently cited methods for determining the economic value of volunteer services. These methods include: total hourly compensation; minimum rate; equivalency rate; professional rate; and true value assessment or equivalency model.

Recent attention has been given to methods of quantifying the value of volunteer work. "One of the first major efforts by researchers in the field of voluntarism has been an attempt to establish the importance of the voluntary sector in the U.S. economy by employing a number of different techniques" (Stam and Stinson). Stam and Stinson credit Wolozin for initiating this work.

Total Hourly Compensation: Wolozin feels that obtaining data on the "total hourly compensation" rather than just wages or salary is important. Because fringe benefits have become an increasingly important part of employment such data more closely indicate the true cost of service. Wolozin collected total annual compensation information for full-time employees from the Department of Commerce. He divided these figures by the Department of Labor estimates of average annual hours of work. The data were collected for three major occupational areas: wholesale and retail trade; services; and finance, insurance and real estate. These calculations gave Wolozin the imputed hourly compensation for each occupational grouping. The results of the three occupational areas were averaged in the 1970's to obtain the "imputed hourly compensation" of $4.68 per hour for volunteer services. This figure represents the marketplace value rather than the "opportunity cost." Recently, VOLUNTEER updated the figure to $6.50 to reflect inflation (McCurley; Karn, Money Talks: Part 1).

Minimum Rate: One of the most simplistic methods for establishing a value for volunteers services is explained by McCurley. He calculates the "minimum rate" model in two ways. The first is $2.00 per hour figure which is used in legislation written by the 96th Congress regarding volunteers. The second is the current minimum wage of $3.35. The major record keeping requirements for the "Minimum Rate" model is the verification of total volunteer hours worked.

Equivalency Rate: A more accurate accounting of the value of volunteer services utilizes an equivalency formula. According to McCurley the "equivalency figure" model presents several different ways to calculate the hourly wage for volunteer services. The first method requires a job description for all volunteer positions. Volunteer job descriptions are necessary for comparison with paid staff job classifications. The second method determines the value of volunteer hours by comparing statistics obtained from the Labor Department regarding the average area wage. The last method for the equivalency model is the use of state or local wage averages to determine the hourly basis for volunteer services. This method provides a means for determining market comparisons.

Professional Rate: The "professional rate" model utilizes the standard fees of a profession when professional services are volunteered. These figures only should be used within a professional framework. For example, if a Certified Public Accountant (CPA) volunteers to audit the books of a nonprofit organization then the economic value of that service would be determined by multiplying the number of volunteer hours by a CPA's regular hourly fee (McCurley). On the other hand, if a CPA volunteered to deliver meals to shut-ins the professional rate would not apply.

True Value Assessment or Equivalency Model: Karn suggests that the biggest challenge to organizations and institutions using volunteer services is to find a system which parallels volunteer jobs with paid staff classifications. To do this Karn suggests a process called "the true value assessment process." The process has five major steps. First, establish an annual salary for each volunteer based on the beginning step of an equivalent paid job classification grade. Second, determine the value of the benefits for the equivalent position which included FICA, retirement, workman's compensation, life and medical insurance coverage. This sum plus the annual salary will determine the annual compensation package for equivalent paid and volunteer positions. Third, determine the annual number of work hours for each classified job. The standard is 2080 hours per year for a typical 40 hour week. Fourth, determine in hours the number of holiday, vacation and sick leave allowed for each employee. Subtract these hours from the annual number of work hours already determined. This calculation will give the actual hours worked annually. Fifth, divide the annual compensation package (wages plus benefits) by the number of actual hours worked to determine the equivalent hourly purchase price. This figure should provide a more accurate accounting of the hourly value of volunteer work as volunteers only report actual hours contributed. Karn contends that no absolute formula for determining the economic value of a volunteer is possible and that the process will vary slightly depending on the organization or program, Karn warns that the "true value assessment process" which is an extension of the "equivalency model" is a "...bold and unapologetic system" because it tends to document the value of volunteer contribution significantly higher than many of the other methods. Karn feels that this process provides the most defensible method of establishing the true dollar value of volunteer service.

Karn, N.G. "Money Talks: A Guide to Establishing the True Dollar Value of Volunteer Time (Part I)." The Journal of Volunteer Administration 1.2 (1982-83): 1-17.
Karn, N.G. "Money Talks: A Guide to Establishing the True Dollar Value of Volunteer Time (Part II)." The Journal of Volunteer Administration 1.3 (1983): 1-19.
McCurley, S.H. "How Much Are Volunteers Worth?" Voluntary Action Leadership Spring 1980: 15-16.
Stam, J.M. & T.F. Stinson. "Voluntarism and Revenue Sharing: Some Considerations for Local Government." Journal of the Community Development Society 7.1 (1976): 24-32.
Wolozin, H. "The Economic Role and Value of Volunteer Work in the United States: An Exploratory Study." Journal of Voluntary Action Research 4.1-2 (1975): 23-42.

SESSION A

May 17, 1989

ORGANIZATIONAL COMMITMENT OF AGENTS IN THE WEST VIRGINIA COOPERATIVE EXTENSION SERVICE

by

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KERRY ODELL, AND LAYLE LAWRENCE

REDUCING STRESS CREATED BY CHANGE ROLES AND JOB-RELATED FACTORS AMONG MINNESOTA COUNTY EXTENSION AGENTS

by

JARED M. SMALLEY AND SATISH VERMA

RETIREE ISSUES IN ARIZONA

by

MARY H. MARION

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Agriculture has always been one of the largest and most important industries in the United States. Congress recognized this by creating the Land-Grant Colleges in 1862 and Experimental Stations in 1884 in each state to better educate the people of rural America. The Cooperative Extension Service was formed with the passage of the Smith-Lever Act of 1914. This act states that the Extension service was "created to aid in diffusing among the people of the United States, useful and practical information on subjects related to agriculture and home economics and encourage application of the same" (Joint United States Department of Agriculture and National Association of State Universities and Land-Grant Colleges, 1983, p. 3).

An extension agent must be committed to his or her job to be totally effective. Mottaz (1986) asserts that "Recent studies indicate that organizational commitment may have consequences for job performance (Mowday, Porter, and Dubin, 1974; Porter et al., 1976; Steers, 1977), absenteeism (Smith, 1977; Steers, 1977), and turnover (Ham, Katerberb and Hulin, 1979: Porter et al., 1976; Koch and Steers, 1978; Angle and Perry, 1981). Thus, organizational commitment would appear to be related to organizational effectiveness" (p. 483). A committed agent will make an extra effort in order to disseminate the knowledge the people of America have the right to receive. Conversely, an agent with less organizational commitment may not want the added duties which the job entails.

PURPOSE OF THE STUDY

This study was conducted to determine the major factors related to organizational commitment among county agents in the West Virginia Extension Service(WVES). The study also sought to determine the level of commitment among agents in the WVES, the relationships between organizational commitment and job characteristics, and the relationship between organizational commitment and work experiences.

METHODOLOGY

Population

The population for this study consisted of county extension agents employed by West Virginia University from November 17, 1987 to January 25, 1988. Of the 119 agents surveyed, 113 (92 %) responded with usable questionnaires.

Design and Instrumentation

The descriptive method of research was used in this study to obtain the data necessary to answer the research objectives. Data were collected by mail questionnaires. The questionnaire included four main sections. The first section was designed to gather information on demographic antecedents; the second section consisted of ten statements that measured job characteristics; the third section consisted of 27 statements designed to measure work experiences; and the final section contained 15 statements which measured the respondent's level of organizational commitment. The statements were measured on a four point, Likert-type scale that ranged from strongly disagree (1) to strongly agree (4).

Validity and Reliability of the instrument

The main questionnaire was examined for content validity by faculty members at West Virginia University. The reliability of the Likert-type scale was established using Cronbach's alpha statistical techniques. The reliability coefficient for the instrument was .90.

Data collection

A questionnaire was mailed to all individuals in the population on December 15, 1987 with a cover letter signed by Dr. Rachel B. Tompkins, Associate Vice President for University Extension and Public Service. Of the population surveyed 113 (92 %) responded. Non-response bias was determined by comparing late respondents with early respondents. Responses were found to be similar.

Data analysis

Data were analyzed using the (SPSSX) Statistical Package for the Social Sciences, at the computer center facilities of West Virginia University. For each of the variables of this study, descriptive data were analyzed in the form of frequencies, percentages, and measures of central tendency. Data were recorded and presented in tabular form based on ranked means and standard deviations. A descriptive narrative was used in combination with the tabulated figures to explain and interpret the findings.

Correlational techniques were incorporated to establish the relationships between the antecedents and consequences. Pearsons Product Moment Correlational Coefficients or Point-biserial Correlation Coefficients were computed between each antecedent and the consequence; organizational commitment. The measure of relationships in this study were described based on the scale by Davis (1971).

SUMMARY AND CONCLUSIONS

Characteristics of the Population

The population for this study were the West Virginia Cooperative Extension agents employed by West Virginia University. Data were collected on the following variables.

Age

Over 50 % of the agents were under the age of 40. The mean age of the respondents was 41.81 with a standard deviation of 10.16. There was a moderate relationship (r = .34) between age and organizational commitment. This indicates that older agents are more committed to the West Virginia Extension Service than are younger agents.

Gender

Slightly over half of the respondents were female. The accessible population consisted of 57 females and 55 males. There was a negligible relationship (r = .06) between gender and organizational commitment. This indicates that males will be just as committed to the WVES as females.

Marital Status

Slightly over three-fourths of the respondents were married. It was suspected that married agents would have more organizational commitment than single agents. There was a low relationship (r = .25) between an agent's marital status and his/her level of organizational commitment. This indicates that married agents are no more committed to the WVES than single agents.

Tenure

The mean tenure was 13.78 years. The majority (61 %) of the county agents had 15 years or less experience in the extension service. Data show a low relationship (r = .22) between an agent's time in the extension service and his/her level of organizational commitment to the WVES. It can be concluded that there is little relationship between tenure and organizational commitment.

Table 1

Age, Gender, Marital Status, and Tenure of the Population

Variable	N	Percentage	Mean	(r)
Age:				
26 to 30	13	11.5		
31 to 35	20	17.7		
36 to 40	29	25.7		
41 to 45	11	9.7		
46 to 50	13	11.5		
51 to 55	9	8.0		
56 to 60	7	6.2		
61 and over	7	6.2		
Missing value	4	3.5		
Total	113	100.0	41.81	.34
Gender:				
Female	57	50.4		
Male	55	48.7		
Missing value	1	0.9		
Total	113	100.0		.06
Marital Status:				
Married	88	77.9		
Single	24	21.2		
Missing value	1	0.9		
Total	113	100.0		.25
Tenure:				
5 years or less	22	19.5		
6 to 10	28	24.8		
11 to 15	19	16.7		
16 to 20	20	17.7		
21 and up	22	19.5		
Missing value	2	1.8		
Total	113	100.0	13.78	.22

Major area of emphasis

As was suspected the majority of agents spent the major portion of their time dealing with 4-H, agriculture and forestry and home economics. This accounted for over 95 % of the responses. There was no relationship (r = .00) between an agent's major area of concern and his/her level of organizational commitment.

Education

Newly hired agents are required to have a Master's degree, thus a large portion of agents were expected to have a Master's degree. Slightly over three-fourths of the agent's surveyed did so. There was a negative negligible relationship (r = -.04) between the education level of an agent and the agent's organizational commitment to the WVES. It can be concluded that more education will not make agents more committed to the West Virginia Extension Service.

Major field of study

Slightly over three-fourths of the agents majored in either agriculture or home economics. There was a negligible relationship (r = .03) between an agent's college major and his/her level of organizational commitment. It can be concluded that regardless of an agents major in college, organizational commitment to the WVES remains constant.

State of origin

Slightly less than four-fifths of the agents who responded to the survey indicated that they were West Virginia natives. It was expected that West Virginians would show more commitment to the WVES than non-natives. There was a low relationship (r = .15) between an agent's place of origin and organizational commitment. This indicates that an agent that is native to West Virginia might be slightly more committed to the WVES than other agents but not appreciably.

Table 2

Program Responsibility, Level of Education, Major Field of Study, and State of Origin of the Population

Variable	N	Percentage	(r)
Program Responsibility:			
Agriculture and Forestry	36	31.9	
Home Economics	30	26.5	
4-H	42	37.1	
Comm. & Nat.Res. Dev.	1	0.9	
Administration	1	0.9	
Missing value	3	2.7	
Total	113	100.0	.00
Level of Education:			
B.S./B.A.	18	15.9	
M.S./M.A.	90	79.6	
Ph.D./Ed.D.	3	2.7	
Missing value	2	1.8	
Total	113	100.0	.04
Major Field of Study:			
Agriculture	47	41.6	
Home Economics	41	36.3	
Other	24	21.2	
Missing value	1	0.9	
Total	113	100.0	.03
State of Origin:			
West Virginia	89	78.7	
Other	23	20.4	
Missing value	1	0.9	
Total	113	100.0	.15

Job Characteristics

Job autonomy

Job autonomy refers to the amount of freedom agents have in carrying out their work. The mean response to questions regarding job autonomy was 3.14. Agents generally agreed that they had freedom in regard to their work. There was a negligible relationship (r = .01) between job autonomy and organizational commitment. It can be concluded that the amount of freedom an agent has on the job has little influence on the level of commitment towards the WVES.

Skill variety

The mean response to questions regarding skill variety was 3.12. Skill variety refers to the variety of different activities that are involved in carrying out an agent's work. The mean of 3.12 indicated that most agents agree that there is variety in their jobs. There was a negligible relationship (r = .06) between skill variety and an agents level of organizational commitment. It can be concluded that the variety in an agent's job has little impact on organizational commitment to the WVES.

Task identity

Task identity measures the degree to which the job requires completion of a work and is identifiable as an agent's piece of work. Overall, the mean response to task identity was 3.03. This indicates that most agents agree that they do identify a job as their own. Task identity had a negligible relationship (r = .09) with agents level of organizational commitment. It can be concluded that agent's with high levels of task identity were no more committed to the West Virginia Extension Service than were agents with low levels of task identity.

Feedback

Feedback can be defined as the degree to which agents obtain direct and clear information about the effectiveness of their performance. The overall mean for feedback was 2.31. This indicates that agents feel they are not getting sufficient feedback on their performance. There was a moderate relationship (r = .30) between feedback and organizational commitment. It can be concluded that agents tend to be more committed to the West Virginia Extension Service if they feel they are receiving an adequate amount of feedback on their job performance.

Table 1

Summary Statistics for Job Characteristics

Variable	N	Mean	Standard Deviation	(r)
Job Autonomy	112	3.16	.48	.0050
Skill Variety	112	3.12	.57	.0636
Task Identity	112	3.03	.60	.0921
Feedback	112	2.31	.73	.2957

Rating Scale:

4. - Strongly Agree	2. - Disagree
3. - Agree	1. - Strongly Disagree

Work Experiences

First-year job challenge

First-year job challenge is the degree to which the job provides a substantial challenge or interest to agents during the first year of their service. The overall mean response by the county agents to job challenge was 3.07. Most agents felt that their jobs as extension agents were challenging. There was a moderate relationship ($r = .39$) between first-year job challenge and organizational commitment. It can be concluded that agents tend to be more committed to the West Virginia Extension Service if they perceived their jobs were challenging and interesting.

Peer group cohesion

Peer group cohesion is the feeling of closeness among agents. The overall mean response for peer group cohesion was 2.96. This indicates that agents feel a sense of companionship with other agents. There was a negligible relationship ($r = .05$) between peer group cohesion and organizational commitment. It can be concluded that a feeling of solidarity among agents has little influence on an agents level of commitment towards the WVES.

Personal importance

Personal importance is the extent to which agents feel that they are making significant and appreciated contributions to the organization. The overall mean response by agents was 2.79. Most agents agreed that they were making important contributions to the WVES. There was a substantial relationship (r = .52) between personal importance and organizational commitment. This is the strongest correlation found in this study. It can be concluded that agents who feel they are making important contributions to the WVES have a higher level of organizational commitment.

Self image reinforcement

Self image reinforcement is the extent to which agents are encouraged to behave in ways that represent their true feelings and attitudes. The overall mean response by agents regarding self image reinforcement was 2.78. This indicates that agents generally agreed that they were encouraged to behave according to their true feelings. There was a moderate relationship (r = .44) between self image reinforcement and organizational commitment. It can be concluded that agents who feel they are encouraged to freely express their true attitudes are more likely to have higher levels of commitment to the West Virginia Extension Service.

Realization of expectations

Realization of expectations refers to how an agent's expectations of the job relates to what the agent found on the job. The overall mean response for realization of expectations was 2.71. This indicates that most agents felt that their expectations met what with what they found on the job. There was a moderate relationship (r = .38) between realization of expectations and organizational commitment. It can be concluded that agents who are aware of what is expected of them when entering the WVES will be more committed to the organization.

Group attitudes towards the West Virginia Extension Service

Group attitudes refers to the attractiveness of the work group towards the organization. The mean response by agents for group attitudes was 2.69. This indicates that most agents feel that other agents look positively upon the WVES. There was a moderate relationship (r = .45) between group attitudes and organizational commitment. It can be concluded that agents tend to be more committed to the WVES if they work with other agents who express positive attitudes towards the WVES.

Role clarity

Role clarity is the extent to which agents understand what they are supposed to do on the job. The overall mean response for role clarity was 2.42. This indicates that agents feel they do not adequately understand what is expected of them on the job. There is a moderate relationship (r = .38) between an agent's role clarity and the level of organizational commitment. It can be concluded that the more agents understand what is expected of them on the job, the higher the level of organizational commitment.

Table 4

Summary Statistics for Work Experiences

Variable	N	Mean	Standard Deviation	(r)
Job Challenge	111	3.07	.49	.3837
Peer Group Cohesion	113	2.96	.51	.0504
Personal Importance	113	2.79	.51	.5197
Self Image Reinforcement	113	2.78	.54	.4434
Realization of Expectations	111	2.71	.57	.3848
Group Attitudes	112	2.69	.51	.4490
Role Clarity	112	2.42	.77	.3831

Rating Scale:
4. - Strongly Agree
3. - Agree
2. - Disagree
1. - Strongly Disagree

This study's findings were generally consistent with the findings of other researchers. The highest indicators of organizational commitment found in this study were personal reinforcement, group attitudes towards the WVES, self image reinforcement, first-year job challenge, realization of expectations, role clarity, feedback and age.

RECOMMENDATIONS

The following recommendations were suggested by the researcher based on the findings of this study.

1. This study should be replicated to determine organizational commitment by personnel in other areas of the extension service such as extension specialists and state administrators.

2. A study should be conducted to determine the relationship between organizational commitment and absenteeism and turnover among agents in the West Virginia Extension Service.

3. A study should be conducted using different variables which may relate to organizational commitment such as salary. central life interests and job satisfaction.

4. County extension agents should be made to feel they are making significant and appreciated contributions to the WVES. This could be done through the distribution of plaques, certificates, letters of recommendations or other appropriate recognition methods.

5. The extension service should make an effort to keep morale high among extension agents.

6. The WVES should encourage agents to express their true feelings and attitudes.

7. The WVES should design the agent's first year to be exciting and challenging.

8. County extension agents should be made more aware as what to expect during the first year of work.

9. Extension service job descriptions should be developed so that agents clearly understand their job responsibilities.

10. Agents should receive more feedback on their job performance from the West Virginia Extension Service.

REFERENCES

Extension in the 80's: (1983). A report of the joint USDA-NASULGC committee on the future of the cooperative extension.

Mottaz, C.J. (1986). An analysis of the relationship between educational and organizational commitment in a variety of occupational groups. Journal of Vocational Behavior, 28, 214-228.

Suandi, T.B. (1982). Organizational commitment of agents in the Ohio Cooperative Extension Service. (Master's Thesis, Ohio State University).

ORGANIZATIONAL COMMITMENT OF AGENTS IN THE WEST VIRGINIA EXTENSION SERVICE

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The topic of this report is certainly of interest and concern to those associated with Cooperative Extension across the country. Administrators who can facilitate changes to improve commitment could benefit from some of the information in this study. The paper is well organized with a sufficient number of subheadings which facilitated reading.

The introduction, although brief, provides a good overview of the history of the Cooperative Extension. However, I suggest including the 1890 land grant institutions in future summaries about the land grant system. The purpose of the study is clear and stated succinctly. However, I could not find a definition of organizational commitment, the focus of the study.

Several mechanical errors in the paper were noted. Among them: 1. unnumbered pages; 2. incomplete reference list; 3. unacceptable style in references listed, (titles of publication not underlined or in bold type); 4. misspelled words; 5. inconsistent numbering of tables; (two tables labeled "Table 1") ; and 6. inconsistent reporting of data in the text and in table, (Table 1 entitled "Summary Statistics for Job Characteristics." -- the reported mean for job autonomy in the table is 3.16 while the text reports a mean of 3.14). This could be eliminated by additional proofreading.

The researchers indicated that validity was established using faculty members at West Virginia University and reliability of the instrument established using Cronbach's alpha technique. These are necessary and important steps if results from the study are to be useful. Clarification on which faculty members (English, Biology or faculty with expertise in the area studied) would be helpful. Also, what data were used to establish the reliability of the instrument, data from the population or some other group? There was no information relative to a pilot test of the instrument. Was one conducted?

While the tables throughout the report were useful for obtaining a quick view of the findings some changes are suggested. Table 1 entitled

"Age, Gender, Marital Status, and Tenure of the Population" and Table 2 entitled "Program Responsibility, Level of Education, Major Field of Study, and State of Origin of the Population," might be clearer if some indication of the reported relationships between organizational commitment and the independent variables was included in the title. Along the same line, the text indicates that two types of correlations coefficients were computed, Point-biserial and Pearson product-moment, yet only the symbol for the most common correlation, Pearson product-moment, was used in the tables. A footnote or change in symbols to indicate which relationships were computed with Point-biserial correlations would be helpful. Davis' convention was used to describe the strength of the relationships between organizational commitment and the demographic variables. This was helpful and provided consistency in the paper for reporting the strength of the relationships.

Generalizability of a study is important. The authors report that early and late respondents were compared to determine nonresponse bias and thereby forming a case for generalizing the findings to the entire population. Again, this was an important and appropriate step in increasing the usefulness of research findings. Some indication of which variables early and late respondents were compared on would add clarity to this report. Were they compared on all variables in the study or were selected variables used? An alternative method to determine nonresponse bias would be to compare the respondents with the nonrespondents on selected demographic variables such as the age, gender, marital status, and tenure. This information would be available in the personnel files of the West Virginia Cooperative Extension.

Although the authors indicated the findings of this study were consistent with those of other researchers, citations of these studies were not provided. Consideration might be given to citing these studies. One such study by Van Tilburg (1987) that concerned the turnover intentions of Ohio Cooperative Extension County Agents might be among those the authors had in mind when making this statement.

Perhaps some of the questions I raised might have been clarified if the page limitation was not a factor in this report. Overall, I believe the study is one of merit and would be a good contribution to the literature after some of the question raised are clarified.

REDUCING STRESS CREATED BY CHANGE AGENT ROLES AND JOB-RELATED FACTORS AMONG MINNESOTA COUNTY EXTENSION AGENTS

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A. INTRODUCTION

Minnesota County Extension Agents are college-trained professionals who carry out informal education programs in agriculture, home economics, 4-H youth, and community & natural resource development. They are employed by the Minnesota Extension Service, created by the federal Smith-Lever Act of 1914 as the third arm of the teaching-research-outreach land-grant university system. County Extension Agents are expected to organize learning experiences that lead to educational change by men, women and youth of Minnesota. Because of this mission, they are often referred to as change agents.

Federal, state and local demands for accountability of public funds have increased pressure on State Cooperative Extension Services to show educational impact on its clientele. In Minnesota, McCubbin and Patterson (1984) studied the psychological and physical effects of stressors on County Extension Agents. They found that "clientele needs/demands" and "expect too much of self" were the key stressors mentioned by over 70 percent of the 44 agents sampled.

B. PURPOSE AND OBJECTIVES

The purpose of this study, done in 1985, was to gather more information and develop a better understanding of the stressors related to "expect too much of self" by Minnesota County Extension Agents. The focus was on agent perceptions and self-expectations as they carried out nine roles that had been identified as central to the job of a county agent (Brown, 1980). It was expected that the importance given to these roles by agents would influence job performance and be a source of stress. Another source of job stress was identified as a set of six work-related variables. Goal of the study was to determine the influence by these two sources of stress on County Extension Agents' self-expectations, and make recommendations to Minnesota Extension Service administrators regarding methods for coping with this phenomenon.

Three operational objectives were stated for the study "expect too much of self" by Minnesota County Extension Agents. These were stated as follows:

1. Determine the most important change agent roles that Extension Administration expects Minnesota County Extension Agents to carry out, and measure their relative importance among these agents.
2. Acquire appropriate, validated scales to measure several work-related variables that appear to have a bearing on self-expectations of the Minnesota County Extension Agents as they carry out their roles.
3. Collect data to infer or generalize about the concept "expect too much of self" as it applies to Minnesota County Extension Agents.

The questions the study attempted to answer through collection and interpretation of the data from the Minnesota County Extension Agents were phrased as follows:

a) Assuming the self-expectations for work by Minnesota County Extension Agents flow from the nine change agent roles identifed in this study, to what extent do they rate these roles highly and to what extent do they place differing values on each of the roles?

b) Assuming that self-expectations of the agents also flow from the work-related variables included in this study, to what extent do Minnesota County Extension Agents:

- Express a commitment to the Extension organization?
- Perceive effective goal setting for their positions?
- Report feelings of job-related tension?
- Indicate involvement in their jobs?
- Have high levels of internal motivation?
- Give evidence of motivation through intrinsic rewards?

c) In reflecting upon the relative importance attributed to the change agent roles and responses to the work-related scales, what new picture can we create regarding "expect too much of self" by Minnesota County Extension Agents in terms of supervision and future leadership?

C. PROCEDURES

The procedures used in developing and conducting this study included: a) development of a theoretical framework, b) identification of the nine important change agent roles, c) selection of appropriate work-related variables, d) creation of a suitable instrument for collecting data, and e) proper analysis of the data.

a) Theoretical Framework

The fundamental role of the Minnesota County Extension Agent is creating educational change. In this role, the agent follows a process of identifying educational needs of his/her clientele, designs an educational program, puts together the resources of Extension, the University and the local community in implementing the program, and takes responsibility for evaluating the outcome.

The purpose of planned change involves linking of a change agent system and a change target for the purpose of bringing about some kind of a change in the latter. The change target can be an institution, a group or an individual. Various models have been suggested for understanding how this process works.

Lewin (1935) suggested that the change agent has to unfreeze the change target from its present level of activity, move it to the desired level, and freeze it at that new level. Lippitt (1958) contributed the idea that a trusting/helping relationship based on the expertise of the change agent and the goal of the change target was vital to the strength and continuation of this linkage, but that once that goal was achieved, the relationship should be terminated so that the change target becomes self-reliant and the change agent can move on to other educational opportunities. Bennis (1969:144-153) characterized an ideal agent-target relationship as one that is based on equal power in decision-making, and mutuality and deliberateness in goal-setting. Zaltman (1984) called this type of change relationship re-educative in that the change agent presents facts and alternatives, but leaves decisions to the change target.

In their educational change role, Minnesota County Extension Agents work with groups as well as individuals. Adoption-diffusion literature and curriculum development theory provide information to guide them in this work. The innovation-decision paradigm developed by Rogers and Shoemaker (1964) describes the process individuals and groups follow in accepting or rejecting change, and the personality and social system variables, communication channels, and innovation characteristics that influence this process. It has been shown that individuals adopt innovations at different rates, that later adopters are more skeptical and adverse to taking risks, and tend to be older, less well-educated and less well-off than earlier adopters, and that it takes more time and effort of the change agent to get adoption of complex, abstract, and resource-intensive innovations. Extension change agents have to take into consideration these kinds of individual and group differences in their audiences to plan meaningful educational programs.

Tyler's (1951) rationale of curriculum development in a formal classroom setting has some adaption to the educational change work done by Minnesota County Extension Agents. He recommended that the educator: (a) identify present ability of the learner as the basis of initial instruction, (b) develop a learning sequence that repeats essential information, (c) broaden the learning experience the learning experience to allow for more complex interaction with the subject matter, and (d) arrange situations whereby the learners can transfer the new knowledge into real life situations. Knowles (1980) suggested that in the informal education of adults, the single most effective teaching device available to teachers is the example of their own behavior. He urged the Extension educator to be self-directed in learning for himself or herself, and in planning learning experiences for other adults.

b) Nine Change Agent Roles

The nine change agent roles identified in this study are drawn from an October 1980 document issued by Dr. Norman A. Brown, during his tenure as the Dean and Director of the Minnesota Extension Service. These nine roles were used as dependent variables in the study, and stated as follows:

1. Teach clientele problem-solving skills.
2. Develop alternative program delivery approaches (besides meetings and one-to-one consultations).
3. Take an interest in state, regional and national issues.
4. Involve volunteers in program delivery.
5. Follow good program development procedures.
6. Be flexible to meet clientele needs.
7. Access resources of total university to meet clientele needs.
8. Follow a self-improvement plan.
9. Be an educational "risk-taker" in trying new approaches and reaching non-traditional clientele.

Generally, new agents are fresh college graduates or persons who come with experience in more structured educational settings. In their first Extension job they are trying to fulfill their own expectations and those of the organization. Recruitment, selection and socialization take place quite rapidly. Soon, agents are on their own, and clientele demands become a driving force. Some of them panic and leave. Others survive the first year, and become increasingly motivated to perform and show promise of success in performing designated roles.

Lawler (1973) explains employee motivation in organizations as a function of expectations - self and organizational - that stem from three sources: (a) the employees' feelings of competence to meet job expectations, (b) their perception of the rewards, internal and external, that they will receive for meeting organizational expectations, and (c) the belief that if they have the ability, and receive the reward, it will bring satisfaction.

Minnesota County Extension Agents can have feelings of incompetence in subject-matter training, interpersonal skills, and basic human needs. Inservice training opportunities are important in helping meet special needs to improve the agents' coping abilities. The perception that one is efficient and competent is as important as the actual mastery of change agent roles. Bandura (1982) found that a series of positive successes helps build a solid perception of high self-efficacy in coping with stress and career goals. Furthermore, one's personal growth need should be nurtured in a "hygienic" work environment that provides job satisfaction from the work itself, achievement, recognition, responsibility and advancement (Herzberg, 1966). In this context, Fugler (1974) found relatively high job satisfaction among Louisiana Cooperative Extension agents, particularly older agents and those who had been recently promoted in rank. Agents with 4-H responsibilities were found to be the most dissatisfied group.

c) Work-Related Variables

Six work-related variables are germane to this study of "expect too much of self" as a major source stress for Minnesota County Extension Agents. These dependent variables include: organizational commitment, goal setting, job-related tension, job involvement, internal work motivation, and intrinsic motivation.

Organizationl commitment is defined as an attitude state in which an individual identifies with an organization in an exchange relationship of services provided and rewards received (Steers and Porter, 1979). Deeply committed employees strongly believe in and accept the organization's values and goals, are willing to make a strong effort for the organization, and have an overriding desire to maintain membership in the organization.

The purpose of goal-setting is to increase individual motivation for work: directing their attention and action, mobilizing energy and effort, increasing persistence and developing individual task strategies (Locke and Latham, 1984). Goal setting as defined in this study is a function of six attributes: goal specificity, goal difficulty, participation in goal setting, feedback on goal effort, peer competition, and goal acceptance (Steers and Porter, 1979). Research findings are unanimous in the positive relationship between increased work performance and goal specificity, goal difficulty, feedback, and goal acceptance (Steers et al., 1979; Locke, Shaw, Saari and Latham, 1981, Locke et al., 1984). Participation tends to increase confidence but is not mandatory for effective goal setting (Locke et al., 1984), while undue peer competition may increase ouput at the expense of quality (Steers, 1984).

Job-related tension arises from role conflict - the feeling of being caught between conflicting persons or factions - and role ambiguity - uncertainty about supervisory and peer expectations, advancement, and responsibility. The consequences are lowered morale due to loss of self-esteem, increased anxiety, and a general feeling of futility (Kahn, Wolfe, Quinn and Snoek, 1964).

Job involvement implies the extent to which a person identifies psychologically with work, i.e., "...internalizes values about the goodness of work or importance of work..." and "...perhaps measures the ease with which the person can be further socialized..." (Lodahl and Kejner, 1965). The authors noted that job involvement is relatively stable over time, unaffected by changes in the work organization, and somewhat related to social nearness of other workers. They found, however, that being involved did not necessarily mean that workers were happy with their jobs.

Hackman and Oldham (1975) defined internal work motivation as the extent to which the employee is self-motivated to perform effectively on the job, and experiences positive internal feelings from performing well, negative internal feelings when doing poorly. Factors associated with motivation were the degree to which a job (a) required a variety of skills and talents, (b) could be identified from its beginning to a visible outcome, (c) was significant to the lives or work of other people, (d) provided worker autonomy in scheduling and procedures, (e) enabled working closely with other people, and (e) resulted in clear and direct feedback on effectiveness of performance from supervisors and co-workers.

Intrinsic motivation is defined by Lawler and Hall (1970) as the need felt by an individual to satisfy a higher order need for performing his/her job. Important factors increasing motivation were the chance for the employee to use his/her abilities, to be creative, and do the things he/she did best.

d) Collection and Analysis of Data

The survey instrument for the study of Minnesota County Extension Agents included eight sets of data as follows:

1. Selected personal characteristics of the agents

2. Relative perceived importance of the nine change agent roles:

    a) Rating on a 4-point importance scale
    b) Forced ranking from 1 to 9

3. Organizational commitment measured against 15 items using a 7-point agreement-disagreement scale (Porter and Smith, 1970)

4. Goal setting measured against 16 items using a 7-point agreement-disagreement scale (Steers et al., 1979)

5. Job-related tension measured against 15 items using a 5-point scale to see how much agents are bothered by specific aspects of work (Kahn et al., 1964)

6. Job involvement measured against three items using a 7-point agreement-disagreement scale (Lodahl et al., 1965)

7. Internal work motivation measured against six items using a 7-point agreement-disagreement scale (Hackman et al., 1975)

8. Intrinsic motivation measured against four items using a 7-point agreement-disagreement scale (Lawler et al., 1970)

Initial verification of the change agent roles was done based on the researcher's experience and contact with two district supervisors in Florida and Louisiana. Face validity was checked in a pretest with 20 Minnesota Extension Agents. Instructions for the ranking procedure were modifed to remove ambiguity.

All but one of the scales on work-related variables have been reported by Cook, Hepworth, Wall, and Warr (1981) to show internal reliabilities ranging from .68 to .93. A reliability check on the intrinsic motivation scale was not found in the literature.

The study population was the 253 County Extension Agents listed in the March 15, 1985 state directory of the Minnesota Extension Service. Following the pretest, the questionnaire was mailed on May 1, 1985, and a followup on May 31. A total of 230 of a possible 248 (five were on leave) survey forms were returned for a response rate of 92.75 percent.

Agent ratings of the importance of change roles were averaged to determine relative importance. Factor analysis using the varimax rotation technique was done to identify role clusters. A correlation matrix was also determined to verify independence of the roles.

Agent rankings of change roles were averaged and differences in the rankings of the several roles were tested for statistical significance according to the personal characteristics of the agents.

Likewise, agent ratings of the items pertaining to the work-related variables were summed and averaged, and differences in ratings were tested for statistical significance according to the personal characteristics of agents. One-way analysis of variance was used.

D. RESULTS

How important agents felt the change roles were in their job as Extension educators was evaluated in two ways: a rating of the importance of each role on a 4-point scale and a forced ranking of the roles from the highest rank of 1 to the lowest rank of 9. There was a remarkable similarity in the rank importance of the roles by both evaluation procedures. The ranks were the same for three roles, and only one rank apart in the remaining six.

The mean rating and ranking received by each role is shown in Table 1 along with its rank among the set of nine roles, based on the mean values. The data suggest that all the roles in the study were considered to be important by the 230 Minnesota County Extension Agents participating in the study (rated 3.29 or higher on 4-point scale). The role "remain flexible to meet clientele needs" (3.79) was rated as the top role. The lowest rating by the agents was given to "take interest in state, regional and national issues" (3.23).

Forced-ranking resulted in a slight shift in agent perceptions of some of the nine roles in the study. The role "teach problem-solving skills" was ranked most important (3.09) where lower means indicate a perception of greater importance. The role "access resources of total university" was ranked least important (6.49).

TABLE 1

Rating and Ranking Extension Change Agent Roles

ROLE:	Rating (Mean)		Ranking (Mean)	
1. Teach problem-solving skills	2	3.74	1	3.09
2. Alternative delivery systems	4	3.53	4	5.01
3. Take interest in issues	9	3.23	8	6.93
4. Involve volunteers	5	3.49	5	5.05
5. Good program development	3	3.67	3	3.56
6. Remain flexible to meet needs	1	3.79	2	3.52
7. Access total university	8	3.29	9	6.49
8. Self-development plan	6	3.44	7	6.06
9. Educational risk-taker	7	3.30	6	5.81

Importance ratings were factor analyzed to further understand the impact of the nine change agent roles on the work perceptions of Minnesota County Extension Agents. A varimax rotated factor matrix yielded three major role clusters using a .50 Eigen value for inclusion in the cluster. The three factors were identified as follows:

Factor One included roles No. 2, alternative delivery systems, No. 3, interest in issues, and No. 7, access resources of total university. This factor reflects organizational expectations that the agent will transcend parochial work boundaries. Each of these roles appeared in the bottom third of preferences indicated by the agents on both the rating and ranking scales of the study.

Factor Two included roles No. 1, teach problem-solving skills, No. 4, involve volunteers, No. 5, good program development, and No. 6, remain flexible to meet clientele needs. This factor includes critical processes that agents are expected to master to be viewed as competent professionals. Minnesota County Extension Agents rated and ranked these roles in the top half for importance for performing their work.

Factor Three included roles No. 8, self-development plan, and No. 9, educational risk taker. This factor reflects roles that the agent has some control over in terms of time and intensity of commitment. They rated and ranked these roles in the lower half for importance in performing their work in 1985.

The relationship between the ratings and rankings of change agent roles and six personal characteristics of Minnesota County Extension Agents was also explored in the study. This was possible because of the relative independence of each role as indicated in the correlation matrix from the factor analysis which yielded a range of values from -.087 to .286. Differences in responses to the survey instrument were viewed in terms of the following:

1. Program Area (agriculture, home economics, or 4-H youth)

2. Years of service in the organization

3. County administrative responsibilities (or not)

4. Highest college degree attained

5. Participation in a change agent training conference in 1984

6. Extension district in which they were working

A one-way analysis of variance was used in studying the relationships regarding the nine change agent roles. Scheffe and/or Duncan-Waller posthoc multiple comparisons were made. The analysis revealed seven statistically significant findings regarding the roles:

Role 1, teach problem-solving skills: County Extension agents in home economics (mean = 2.52) ranked this role significantly higher than agriculture (3.32) and 4-H agents (3.43). The difference was explained in terms of teaching orientation and program area emphasis.

Role 2, alternative delivery systems: County Extension agents with a bachelor's degree (mean = 4.79) or those who had not attended the change agent conference (4.80) felt this role to be more important than agents with a master's degree (5.44) or those who had participated in the change agent conference. The difference was explained in terms of increased feelings of competence from the higher degree, and new insights gained from participation in the conference.

Role 3, interest in state, regional and national issues. County Extension Agents in the Southwest District (mean = 5.85) perceived this to be a more important role than agents in both the Northeast District (6.61) and Northwest District (6.76). The difference was explained in terms of Extension history and specialized training in issue education that Southwest agents had received prior to the study.

Role 4, involve volunteers: County Extension Agents in 4-H youth development (mean = 3.83) indicated this was a more important role than both agents in agriculture (5.87) and home economics (5.26). The difference was explained in terms of program area emphasis.

Role 7, access resources of the total university: County Extension Agents who had 6 to 10 years of service (mean = 6.00) or 21 to 39 years service (6.12) ranked this role higher than agents with 11-20 years (7.13). The difference was explained in terms of the tendency for the middle group to look more within the Extension organization for resources than access the total university.

Role 8, follow a self-development plan: County Extension Agents in agriculture (mean = 5.54), non-county directors (5.95), with master's degree (5.52) and non-conference participants (5.86) felt this role was more important than their respective counterparts: home economics (6.51), 4-H youth (6.20), county directors (6.25), with bachelor's degree (6.33), and conference participants (6.49). The difference was explained in terms of inservice training, upward mobility in the organization, greater self-appreciation, and insights from the change agent conference.

Role 9, be an educational risk taker: County Extension Agents in 4-H youth development (mean = 5.13) found this role more appealing than agricultural agents (5.92). The difference was explained in terms of more organizational encouragement to 4-H agents to be creative in their work efforts and their experience with volunteerism.

Relationships between the ratings of six work-related variables and the six selected personal characteristics of Minnesota Extension Agents were also studied. A response range of 1.00 to 7.00 was provided for the items pertaining to organizational commitment, goal setting, job involvement, internal work motivation and intrinsic motivation. For job-related tension, the range was 1.00 to 5.00.

Minnesota County Extension Agents reflected a high degree of organizational commitment (5.17), internal work motivation (5.88), and intrinsic motivation (6.46). They were also fairly involved in their jobs (4.87), and reported an acceptable level of job-related tension (2.86 on 5.00 scale). However, the goal-setting process seemed to create mixed reactions. Agents indicated their goals were fairly specific (4.61), and tended to be difficult enough (4.73) to motivate performance. Competition from other agents did not appear to be a problem (3.84). Supervisors were credited with providing a high degree of participation in setting the goals (5.38), but tended not to provide adequate or timely feedback (3.86) on goal accomplishment from the agents' perspective. The above findings corroborate the 1984 McCubbin report regarding stress factors related to these agents, and reflects the degree to which these work-related variable impact on perceptions of "expect too much of self".

A one-way analysis of variance was used in studying the relationships between the six work-related variables and the selected characteristics of the agents. Duncan-Waller posthoc multiple comparisons for statistically significant relationships revealed the following:

Organizational commitment: Extension home economists (mean = 5.50) were more committed to the organization than agricultural agents (5.10) or 4-H youth agents (4.89). Agents in the Southwest District (5.47) showed greater commitment than agents in the Southeast District (5.05) or Northeast District (4.96).

Goal setting: Agents in the Northwest District (mean = 4.91) and Southwest District (4.88) indicated they had more specific goals than agents in the Northeast District (4.19). The Northeast agents also reported less participation in goal setting (5.03) than agents in the Southwest District (5.61), and that they received significantly less feedback from their supervisors (3.29) than agents in the Northwest District (4.38). This finding reflects both the collapse of the mining industry in northeast Minnesota, and importance for good communication between agents and supervisors. Other significant findings regarding goal-setting included: 4-H agents (4.87) and agents with less than five years service (4.89) perceived they had more difficult goals to achieve than home economists (4.46) and agents with over 20 years service (4.39), respectively; and agricultural agents (3.57) reported they received less feedback regarding goal effort than Extension home economists (4.39).

Job-related tension: 4-H youth agents (mean = 2.96) reported significantly greater job tension than home economists (2.74). This finding suggested that the program thrust in voluntarism and the creativity expected to implement 4-H programming may be challenging 4-H agents to the point of being stressful.

E. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this study, the following components seem to significantly influence the stressor "expect too much of self" as it applies to the multi-dimensional change agent role of the Minnesota County Extension Agent:

1. Agent self-expectations are best realized when they are carrying out the roles of teaching problem solving skills, following good program development, involving volunteers, and remaining flexible to meet the needs of Extension clientele.

2. Agents experience greatest frustration, therefore stress, from attempting to deal with issue education, and accessing the resources of the total university.

3. The influence of using alternative program delivery systems on self-expectations is ambiguous.

4. Agent self-expectations regarding self-development and being an educational risk taker can be positive or negative motivation depending upon the agent's experiences in the Extension Service.

5. Considerable agent stress can be expected when they are strongly committed to the organization and deeply involved in their job, as well as have high levels of internal work motivation and intrinsic reward for task accomplishment.

6. Even though program goals are perceived as difficult and challenging, the findings that they are specific and agents generally participate in the process of goal-setting, should increase the goal effort and achievement by agents. The major obstacle appears to be inadequate feedback on goal effort from supervisors. The importance of knowledge of results appears to be a key factor in reducing strain caused by the stressor "expect too much of self". Further research in this area would be invaluable. Such research could focus on identifying the components of adequate, timely feedback, the types of feedback behavior that should be displayed by Extension supervisors, to be followed by testing of results of this research to see their influence on agent self-expectations.

In conclusion, it is encouraging to note that Minnesota Extension Agents expect too much of themselves. When they respond to this stessor by increasing productivity without creating personal anxiety and frustration, they are displaying dedication to their role as an educational change agent. Rather than focus on the strains generated by such self-expectations, Extension administrators would do well to provide the kind of leadership that enlivens the mission and goals of the organization in the eyes of the agent. Simultaneously, concerns and pressures for accountability should be reduced by improved and timely communication and counseling between supervisors and agents regarding performance expectations for each Minnesota County Extension Agent.

F. REFERENCES

Bandura, A. (1982). Self-Efficacy Mechanism in Human Agency. American Psychologist, 37, 2, 122-147.

Bennis, G., Benne, K. D. & Chin, R. (1969). The Planning of Change. New York: Holt, Rinehart & Winston, Inc.

Brown, Norman A. (1980). Proposal for Restructuring and Policy Change. St. Paul: Minnesota Agricultural Extension Service.

Cook, J. D., Hepworth, S. J., Wall, T. D. & Warr, P. B. (1981). The Experience of Work: A Compendium and Review of 249 Measures and Their Use. New York: Academic Press.

Fugler, A. F. (1974). Selected Variables Affecting Job Satisfaction and Motivation of Louisiana Cooperative Extension Service Agents. Unpublished doctoral dissertation. Baton Rouge, Louisiana State University.

Hackman, J. R. & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. Journal of Applied Psychology, 60, 159-170.

Herzberg, F. (1966). Work and the Nature of Man. New York: World Publishing.

Kahn, R. L., Donald M. Wolfe, Robert P. Quinn, J. Diedrick Snoek, and Robert A. Rosenthal (1964). Organizational Stress: Studies in Role Conflict and Ambiguity. New York: John Wiley & Sons, Inc.

Knowles, Malcolm S. (1980). The Modern Practice of Adult Education. Chicago: Association Press/Follett.

Lawler, E. W., III (1973). Motivation in Work Organizations. Belmont, Calif.: Wadsworth Publishing Company.

Lawler, E.W., III & Hall, D. T. (1970). Relationship of Job Characteristics to Job Involvement, Satisfaction and Intrinsic Motivation. Journal of Applied Psychology, 54, 305-312.

Lewin, K. (1935). A Dynamic Theory of Personality. New York: McGraw-Hill.

Lippitt, Ronald, Jeanne Watson and Bruce Westley (1958). The Dynamics of Planned Change. New York: Harcourt, Brace and World, Inc.

Locke, E. A., Shaw, K. N., Saari, L. M. & Latham, G. P. (1981). Goal Setting and Task Performance: 1969-1980. Psychological Bulletin, 90, No. l, 125-152.

Locke, E. A. & Latham, G. P. (1984). Goal Setting: A Motivational Technique That Works! Englewood Cliffs, N. J.: Prentice-Hall, Inc.

Lodahl, T., & Kejner, M. (1965). The Definition and Measurement of Job Involvement. Journal of Applied Psychology, 49, 24-33.

McCubbin, H. & Patterson, J. M. (1984). Minnesota County Extension Agents: Stress, Coping and Adaptation. St. Paul: University of Minnesota.

Porter and Smith (1970). The Etiology of Organizational Commitment. Unpublished paper, University of California at Irvine.

Rogers, E. M. & Shoemaker (1983). Diffusion of Innovatons. New York: The Free Press.

Steers, R. M. & Porter, L. W. (1979). Motivation and Work Behavior. New York: McGraw Hill Book Company.

Steers, R. M. (1984). Introduction to Organizational Behavior. Glenville, Ill.: Scott, Foresman and Company.

Tyler, Ralph W. (1949). Basic Principles of Curriculum and Instruction. Chicago: University of Chicago Press.

Zaltman, G. Duncan, R. (1984). Strategies for Planned Change. New York: Wiley Publishing Company.

REDUCING STRESS CREATED BY CHANGE AGENT ROLES AND JOB RELATED FACTORS AMONG MINNESOTA COUNTY EXTENSION AGENTS

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This paper was well written and easy to read. Terms that were specific to the study were accompanied by sufficient explanation. This was very helpful and eliminated many questions that might have surfaced otherwise. Studies cited in the text were included in the reference list and were in an acceptable format. I found the theoretical framework very helpful. Several of the variables investigated were measured using existing instruments. The paper was virtually free of typographical errors.

A few questions did enter my mind while reading the paper.

1. Does the term "measured against" mean the same thing as "measured by?" It was used in describing how data on the work related variables would be collected. Both terms might be more recognizable by different regions in the country.

2. The authors report that reliability for the intrinsic motivation scale was not reported in the literature. Were reliability coefficients computed from data collected from the 230 agents who responded to the survey? If so, what was the reliability?

3. Were the 20 Minnesota agents who participated in the pretest for face validity among the 248 agents who were mailed the questionnaire? Why wasn't the instrument pilot tested outside Minnesota? Could this have been facilitated through the Florida and Louisiana contacts?

4. Were respondents and nonrespondents compared on any variables? If not, this might be facilitated by using information on personal characteristics available in the personnel files.

In the conclusions and recommendations section, the authors state that "Agents experience greatest frustration, therefore stress, from attempting to deal with issue education, and accessing the resources of the total university." It would be interesting to see what affect the national initiatives (which is essentially, issue based programming) have on stress level of agents not only in Minnesota but across the nation.

EXTENSION'S ROLE IN RETIREMENT CONCERNS OF THE MATURING POPULATION

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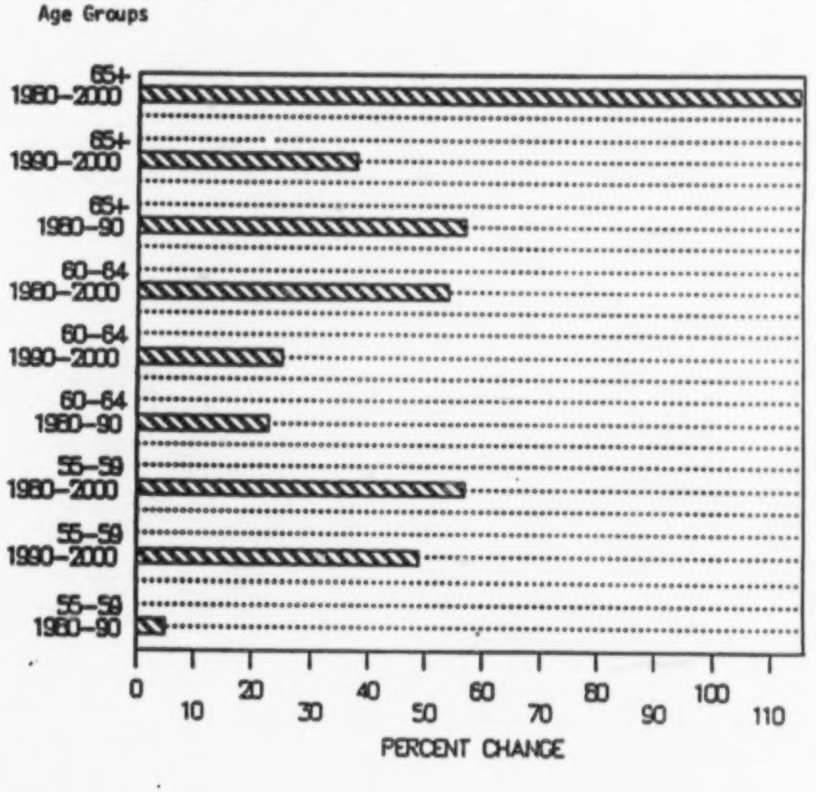
INTRODUCTION

Arizona, along with other Sunbelt states like Florida, Texas and California, has long been described as a "mecca" for retirees. Statistics reveal that the average percentage of sunny days for Phoenix is 85 percent and for Tucson, 86 percent. Miami and Los Angeles can boast of 73 percent possible sunny days. Average temperatures for Phoenix and Tucson range from a minimum of 55 degrees to a maximum of 87 degrees. Arizona's relatively clean air, particularly at higher elevations, and freedom from crowding, with 29.9 persons per square mile, also contribute to perceptions of "the good life" so richly deserved when retiring.[1] Arizona's growth in population, 39.5 percent between 1977 and 1987, ranked second nationwide.[2] The population 65 years old and over grew 91 percent between 1970 and 1980 compared with a 28 percent increase nationwide and is projected to increase 115 percent between 1980 and 2000, due primarily to retirement migration to the state.[3] See Table 1

Table I. Projected Population Growth in Arizona
Percent of Change 1980-2000



Do all these positive measures mean everything is going well in Arizona - not necessarily. As the maturing population increases, Arizona is experiencing many of the same growth and development concerns that face the rest of the country. These concerns include availability of safe and plentiful water supplies;[4] adequate mass transportation for both the able and the disabled populations; safe methods of waste disposal and protection from crime.

Questions to be addressed as these concerns increase for Arizona and other states include: (1) are people aware of these problems; (2) which is most troublesome to them; (3) should Cooperative Extension faculty include these concerns in program development and implementation? If so, in the face of limited resources and rapidly changing lifestyles, what approaches are most efficient?

Traditional Extension or disciplinary programming, with its origins within the Extension system, may have excluded Extension's intervention in these concerns. Indeed, the result of disciplinary programming is to establish, by prior assumption, whom Extension will serve, what problems Extension will address, and what form Extension programs will take.[5] The advent of issues-based programming, with issues defined as topics of wide public concern arising out of complex human problems and with program delivery methods undetermined, mandate Extension to take an active role in problem-solving for people at every economic level and at all stages of the lifecycle.[6] The survey results presented in this paper are an example of issue identification and desired information dissemination methods.

PURPOSE AND OBJECTIVES

Purpose

The purposes of this paper are to share:

1. those concerns most important to future retirees in Arizona; and
2. the Extension delivery methods they would prefer to assist them in solving or adapting to these concerns.

Objectives

The objectives of this paper are:

1. to identify from a given list of concerns those which have priority among future retirees; and
2. to determine methods by which Extension faculty might address and provide education about these concerns.

PROCEDURES

The results of this paper are from a larger study (W-176, Housing and Locational Decisions of the Maturing Population: Opportunities for the Western Region), using the Arizona state data. Data were collected by a mail questionnaire utilizing eight pages of questions common to all states in the study and two pages unique to each participating state.

The survey sample consisted of 850 University of Arizona employees working in positions ranging from grounds maintenance through upper administration. The sample was randomly selected from two age strata: 40 through 49 years and 50 years and older. One-third of the sample was selected from the younger age stratum and two-thirds from the older age stratum. It was believed that since the older employees were closer to retirement, they might have a well-defined set of criteria to use in making retirement decisions. A 71 percent return rate was realized.

Variables used in data analysis for this paper were environmental concerns and Extension delivery methods. These concerns and methods were analyzed for trends using demographic characteristics of age, education, occupation, income and years to retirement as control variables. Data analysis included frequency distributions and coefficient correlations.

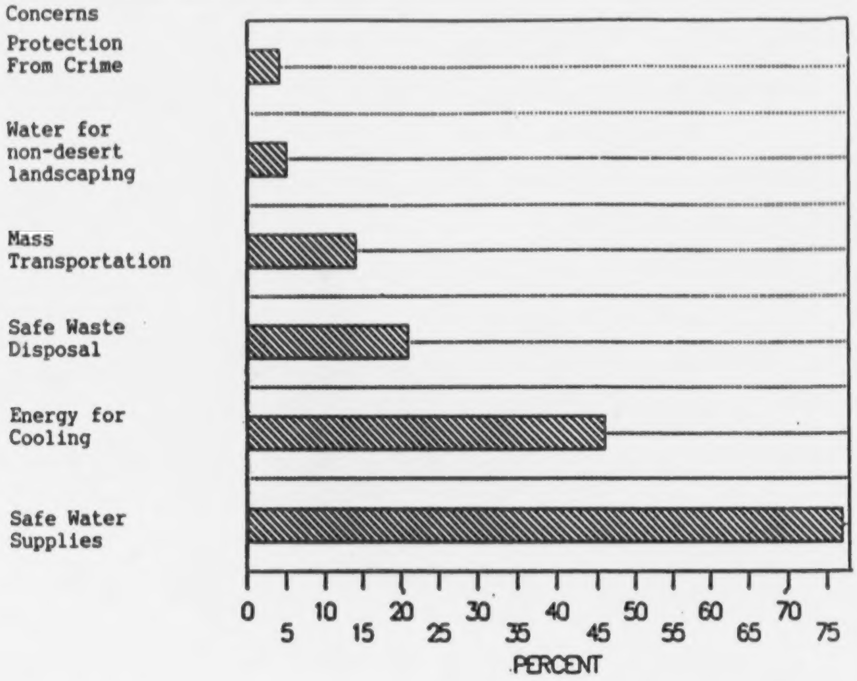
RESULTS

Environmental and Public Policy Concerns

An objective of this paper was to identify from a given list of concerns those having priority among future retirees when choosing a retirement location. Respondents were given a list of current growth and development problems facing Arizona. The concerns were: (1) a safe and fresh supply of drinking water; (2) water for non-desert landscaping; (3) public transportation for the disabled; (4) public transportation for all; (5) electricity for residential evaporative cooling; (6) electricity for residential air conditioning; (7) availability of private security systems; (8) safe public disposal of liquid and solid waste; and (9) air quality.

Respondents were asked to indicate which "item was of most concern to them when they thought about continuing to live in Arizona and which item was of second most concern." All items were analyzed for trends controlling for age, education, income, occupation and years to retirement. No highly significant differences were created by these variables, but trends did emerge which should be addressed. Seventy-seven percent of the respondents selected the availability of safe water supplies as the item of most concern to them. For purposes of simplification in presentation of the data, energy for evaporative cooling and energy for air conditioning were collapsed into one category. For the same purpose, public transportation for the healthy and public transportation for the disabled were also collapsed. See Table II.

Table II Percentage of Respondents' Concerns on Environmental and Public Policy Issues n=540

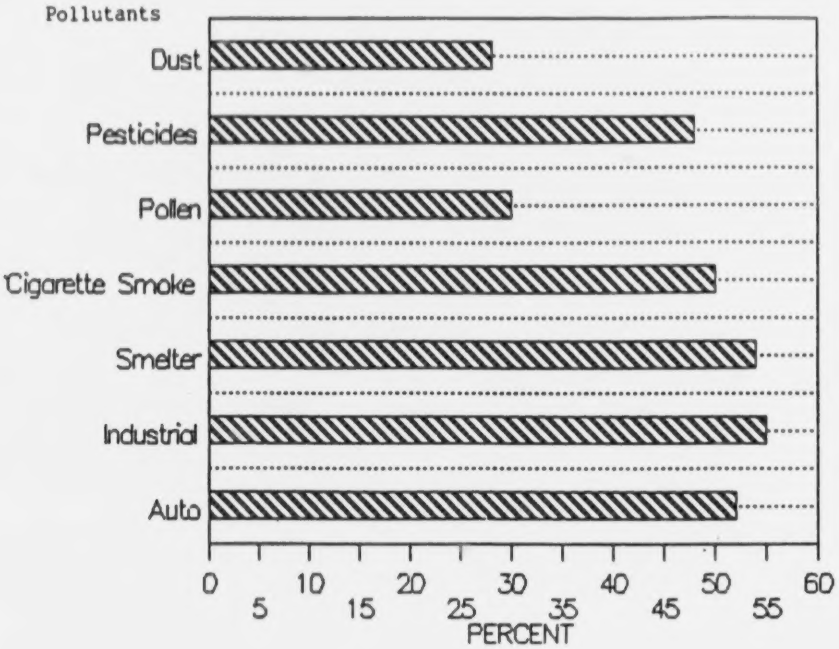


In a separate set of questions, air quality was examined in more depth than the other environmental issues. Respondents rated their levels of concern about air quality on a Likert scale ranging from levels of little or no concern to levels of great concern. The forms of pollutants named were: (1) auto; (2) industrial; (3) smelter; (4) cigarette smoke; (5) pollen; (6) pesticides; and (7) dust. Emissions from autos, industry and smelters were of great concern to 70-75 percent of the older, better educated, highly paid respondents and to 50-55 percent of the younger respondents.

Cigarette smoke in public places was of great concern to 50 percent or more of all respondents regardless of age, income or level of education. Pesticides for home or agricultural use were of concern to 50 percent of all respondents but of greater concern to older than younger respondents.

Although pollen and dust pollution were not as strong concerns as the other named forms of air pollution, concern increased as age, income and level of education increased. See Table III

Table III Percentage of Respondents Very Concerned About Air Pollutants n=540



Methods of Information Delivery

A second objective of this paper was to determine methods by which Extension faculty might address and provide education about these concerns. Identification and order of concerns by future retirees is a beginning. What are effective methods Cooperative Extension, after defining issues of wide public concern like water and air quality; energy supplies; and safe waste disposal, can utilize to reach people with education information about the issues?

A recent study in North Carolina concluded that educational videotapes produced with professionalism could be a viable means of enhancing Extension's program delivery capabilities.[7] Further, Michael Q. Patton has predicted that not only will television play an even greater role in disseminating information than it has in the past but microcomputers will become commonplace, providing direct access to all kinds of knowledge, and will be looked on as a household necessity.[8]

In Arizona, Cooperative Extension has traditionally offered education programs in the form of daytime or evening meetings. These programs have been discipline-oriented for target audiences. Lifestyle changes like women in the work force and two-earner households, resulting in limited time for educational activities, are causing Extension to evaluate its delivery methods. Economic conditions at all levels have resulted not only in declining revenue bases for some states but also downsizing and constraints on program options, mandating reassessment and clarification of the mission and role of Cooperative Extension.[9]

To determine how today's population would be willing to receive educational information on environmental, public policy and community issues, respondents were given a list of alternative information delivery methods. They were asked to indicate whether they would or would not pay a fee to use a particular method. If they responded "yes," they were also asked to indicate, from a range of choices, how much they would be willing to pay. Delivery methods included renting videotapes for home use; enrolling in home study courses; paying for bulletins and other printed materials; and/or attending education meetings in or near the community of residence.

Renting Videotapes

Overall, 67 percent of the respondents said that they were willing to rent videotapes, but as age increased, willingness to rent decreased. Within age groups, 82 percent of those aged 40-45 were willing to rent, while only 54 percent of those aged 61 and over were willing to rent. An increase in level of education corresponded with an increase in willingness to rent videotapes, with 80-90 percent of those with technical school or community college degrees willing to rent.

To determine the amount they were willing to pay, respondents chose from the following four categories:

Less than $1.00

$1.00 - $2.99

$3.00 - $4.99

$5.00 - $7.00

Generally, 54 percent of all respondents were willing to pay $1.00-$2.99 to rent an educational videotape. If the price increased to $3.00-$4.99, only 28 percent were willing to pay that amount. These respondents tended to be 56 years old and older.

Within each educational category, 50 percent or more of the respondents indicated that the maximum amount they would be willing to pay for rental was in the $1.00-$2.99 range. The few respondents who were willing to pay a $5.00-$7.00 rental fee tended to have doctoral degrees.

Enrolling In Home Study Courses

Home study courses, in which enrollees proceed at their own pace, are not a delivery method new to Cooperative Extension. However, this delivery method was explored because it was seen as an alternative to the traditional meeting and could be accomplished at home at a time convenient to the enrollee.

Among those who were willing to enroll in a home study course, an equal distribution of age with a slightly higher percentage of those aged 40-45 was observed. In that age group, 71 percent were willing to enroll, while 44 percent of those aged 61 and over were willing to enroll. As age increased, persons not willing to enroll in a home study course increased. Respondents 61 years old and older accounted for 33 percent of those who said "no."

No discernible pattern of level of education and willingness to enroll in a home study course emerged from the data.

Respondents chose from the following four categories the amount they would be willing to pay to enroll in a home study course:

Less than $5.00

$5.00 - $9.99

$10.00 - $14.99

$15.00 - 20.00

Of those respondents who would enroll in a home study course, 39 percent were willing to pay $15.00 - $20.00. Of this 39 percent, 28 percent were aged 40-45. Those aged 51-55 were least willing to pay that fee. Of the remaining respondents, 26 percent were willing to pay $5.00-$9.99 and another 26 percent, $10.00 - $14.99,showing a fairly equal distribution of age groups in these two price categories.

As in videotape rental, the data revealed that the higher the level of education, the more likely the respondent was to pay the higher fee to enroll in a home study course.

Paying for Educational Bulletins

The Cooperative Extension System nationwide has prided itself on bringing a non-formal educational program to the people, who are accustomed to receiving educational information free of charge. Increasingly, in the face of budget restraints and rising costs for supplies, Extension has been forced to charge for bulletins, a long-time staple commodity. This has been a difficult decision, particulary after distributing millions free over the years.

Respondents were asked if they would or would not be willing to pay for bulletins and other printed materials which formerly were free. Sixty-four percent indicated willingness to pay for bulletins. As age increased, up to age 55, willingness to pay increased. However, after age 55, willingness to pay decreased.

As level of education increased up to some college, willingness to pay for bulletins increased. After that level of education, willingness to pay decreased.

Respondents chose from the following four categories the amount they would be willing to pay for an Extension bulletin:

Less than $2.00

$2.00 - $2.99

$3.00 - $3.99

$4.00 - $5.00

Over one-half, 55 percent, indicated that they were willing to pay less than $2.00, while 28 percent would pay from $2.00 - $2.99 for a total of 83 percent. Of the few respondents willing to pay $4.00 - $5.00, most were aged 56 years or older.

No discernible pattern of level of education and amount to pay for educational bulletins emerged from the data.

Driving to Attend an Educational Meeting

Although issue-based programming mandates Extension to evaluate delivery methods and adapt education delivery to changing lifestyles and needs, Extension will not abandon all traditional means of programming. Since meetings have been a preferred and accepted method of information transfer, they will not be discontinued. Respondents were asked to indicate the longest distance they would be willing to travel to attend an education meeting.

Respondents chose from the following categories the distance they would be willing to travel:

0 - 5 miles

6 - 10 miles

11 - 15 miles

16 - 20 miles

over 20 miles

Almost two-thirds, 62 percent, of the respondents would be willing to travel up to ten miles to attend an educational meeting while 22 percent would be willing to travel up to 15 miles.

As respondents' age and level of education increased, the distance they were willing to travel decreased.

CONCLUSIONS

Future retirees in Arizona ranked as the item of their greatest concern the availability of a safe and plentiful water supply. In descending order, other concerns ranked were affordable energy supplies; safe methods of waste disposal; air pollution; availability of mass transportation for both the healthy and the disabled; and protection from crime. These concerns were shared without regard to age, education, occupation, income and years to retirement.

The results of this study, particularly the availability of a safe and plentiful water supply, support Extension's efforts in issues-based programming at the local, state and national levels. Water quality was named by Cooperative Extension in January 1988 as a national initiative.[10] At the same time, Arizona Extension initiated a statewide water quality management committee to direct the state's educational programming efforts. These efforts can help consumers acquire confidence in making decisions about water quality and availability as well as promote cooperation among agencies affected by the question.

Renting educational videotapes, a non-traditional Extension delivery method, was acceptable to the majority of the respondents in this study. The availability of electronic equipment has increased people's ability to participate in Extension programming without traveling great distances. However, Weigel admonishes Extension faculty not to "become caught up in the development and use of new delivery methods to provide information and forget their role of helping adults in their learning efforts." [11] Respondents also showed little reluctance to the concept of paying for Extension publications, a positive note in the face of budget restraints at all levels.

RECOMMENDATIONS

Educational programs on environmental quality, a major concern of future retirees, should be developed by Extension for delivery by videotape and home study.

If funding continues to be a major concern in providing Extension education, administrators should consider fees for publications and other Extension delivery methods.

This study should be replicated in other states to further benefit Extension programming. Change will continue to propel this nation into the 21st century, and change from disciplinary programming is indicated by this study.

REFERENCES

1. Arizona Statistical Review. 1988. Phoenix: Valley National Bank, Economic Planning Division. pp. 6 and 71

2. Ibid. p. 2

3. Hogan, Timothy D. 1986. Arizona Population Trends. In Arizona's Changing Economy - Trends and Prospects. Ed. Bernard Ronan. Phoenix: Arizona Department of Commerce. pp. 5 and 25

4. Groundwater Education: A Challenge for the Cooperative Extension System. 1987. Washington, D.C.: U.S. Department of Agriculture Extension Committee on Organization and Policy. p. 3

5. Dalgaard, K. A. et al. 1988. Issues Programming In Extension, Executive Summary. Washington, D.C.: U.S. Department of Agriculture and the Minnesota Extension Service Cooperating. p. 2

6. Ibid. p. 4

7. Russ, Mary L. 1988. Acceptability of Educational Videotapes In Adult Educational Experiences. The Reporter-National Association of Extension Home Economists. Vol. 45 No. 4. Kansas City, Mo.: Ashcraft Inc., p. 24

8. Patton, Michael Q. 1986. Extension's Partnership with the Future. Journal of Extension. Vol. 24. Fall Issue. Madison, Wisconsin: Extension Journal Inc., p. 15

9. Thomson, Joan S., Sue Buck and Marilyn Herman. 1989. Perspectives on the Future of Extension. Journal of Home Economics. Vol. 81 No. 1. Washington, D.C.: American Home Economics Association. p. 9

10. Cooperative Extension System National Initiatives Focus on Issues. 1988. Washington, D.C.: U. S. Department of Agriculture Extension Committee on Organization and Policy. p. 20

11. Weigel, Randy R. 1986. Is Extension Changing Its Mission? Journal of Extension. Vol. 24 Spring Issue. Madison, Wisconsin: Extension Journal, Inc., p. 30

EXTENSION'S ROLE IN RETIREMENT CONCERNS OF THE MATURING POPULATION

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Cathy F. Bowen---Pennsylvania State University---Discussant

Strengths of the Paper

1. The paper addresses concerns that interest not only those nearing retirement, but most adults.

2. The sample studied was randomly selected.

3. The results provide documentation that supports alternative ways to program other than the traditional meetings usually used by extension.

Questions and Concerns

1. The title was somewhat misleading. My guess is that a number of people would think this study dealt with money concerns and not environmental concerns of a maturing population. The title could be made clearer by inserting the word "environmental": Some suggestions are: 1) Environmental Concerns of Individuals Approaching Retirement and 2) Extension's Role in Addressing Environmental Concerns of Individuals Approaching Retirement.

2. The first item under purpose and objectives could also be made clearer by using the term "environmental."

3. Was there a follow-up of nonrespondents? None was reported.

4. Tables 1 and 2 should be more appropriately labeled Figures 1 and 2 as they are graphs.

5. A clearer definition of the levels of concern on the Likert scale used to study air quality would have been helpful. The lower and upper ends of the scale (little concern and great concern) were defined but how many points were between the two extremes?

6. The term "evaporative cooling" was not easily understood. I suspect it is a term that is very specific to Arizona and other western states. A brief definition would be helpful for non-Western people like me.

7. How were respondents distributed among the occupations? Maintenance through upper administrative personnel were included in the study. It would also be interesting to know how the various occupations were distributed over the two age strata.

8. What findings were there relative to occupation and years to retirement? These variables were mentioned in the procedures section as control variables but not in the results section.

9. In the results section, paragraph 2 the authors state, "no highly significant differences were created by these variables, but trends did emerge which should be addressed." Does this mean some statistically significant differences were found? If so, what was the predetermined level of significance.

10. The data relating to methods of delivery (videotapes, home study courses, educational bulletins) might have been summarized easier in tables rather than in the text. This would have been helpful on the data related to costs andthe willingness of respondents to pay according to age strata.

11. Does availability of private security systems mean the same thing as protection from crime? Consistency in use of terms from Table 2 to text would have facilitated reading.

12. The recommendation of developing programs on environmental quality for delivery by videotape and home study could be made more cautiously. While the respondents were asked if they would pay for renting videotapes, home study courses, or educational bulletins, the paper gives no indication that topics related to environmental issues would be among those respondents would be willing to pay for.

During the next fews years issues of environmental concern are likely to become more critical and capture more public attention. It is refreshing to know that extension is looking ahead and planning to address them.

SESSION B

May 17, 1989

4-H IMPACT ON ALUMNI

by

JEAN WOLOSHUK AND LAYLE D. LAWRENCE

DEVELOPMENT OF LIFE SKILLS OF 4-H CLUB MEMBERS

by

BRUCE WAGUESPACK AND JEFFREY W. MOSS

A COMPARISON OF ADVANTAGED AND DISADVANTAGED POPULATIONS OF ADULT LEARNERS USING THE EXPECTANCY-VALENCE PARADIGM OF MOTIVATION AND ADULT LEARNER PARTICIPATION

by

EMMALOU VAN TILBURG

4-H IMPACT ON ALUMNI

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INTRODUCTION

"Learning by doing" has been the fundamental principle of 4-H club work from its beginning. The program supplements and complements the formal education of the schools. Through experience-based curriculum, young people gain knowledge and life skills needed to become mature, competent adults (Extension's 4-H: Toward the '90's, 1985, p. 6).

4-H can also be defined as an educational endeavor designed to enhance the scientific knowledge, leadership skills and capabilities of youth to adjust to rapidly changing social and economic conditions (Prawl, Medlin, and Gross, 1984, pp. 185-1986).

The National 4-H Council is a private, nonprofit, educational institution dedicated to strengthening 4-H and youth programs. This council makes possible incentives for excellence through a nationwide awards program which recognizes achievement at the local, state, and national levels and recognizes individual development of 4-H members through educational activities such as National 4-H Congress. National 4-H Congress is the final event of the National 4-H Awards Program (4-H Digest, 1986, p. 1.).

Awards and recognition programs related to project work have motivated 4-H'ers to exemplify the 4-H "learn by doing" process. The National Awards Program initially developed by the National Committee on Boys' and Girls' Club Work was organized in 1921 to encourage support from the private sector. The awards program culminates the individual member's progress in 4-H and his/her project work (Wessel and Wessel, 1982, p. 34).

Society has undergone continuous change since 4-H began over 80 years ago. Change affects the way people perceive their lives and expectations. In order to remain a viable program, 4-H must work to meet these expectations. Tumusiime and Lawrence (1985) identified several major problems in successfully initiating and operating 4-H activities. Among the problems identified were (1) lack of sufficient data to show impact of projects and programs on 4-H'ers; and (2) no written guidelines for effective program evaluation (evaluation criteria).

While clientele of the 4-H program say the experiences are useful, in a time of limited financial resources and staff reductions, research is needed to document the long-term impact of educational activities on participants. While most studies have focused on the program's ability to reach increasing numbers of participants, few have addressed how 4-H alumni felt their 4-H experience contributed to their selection of a career and how leadership skills learned in 4-H have helped in their occupations or personal lives.

OBJECTIVE

The objective of this study was to investigate the impact of 4-H educational activities on youth participants from West Virginia who had been involved in the National Awards Program from 1967-1980. Perceived usefulness of skills/knowledge acquired by participants in occupations and personal lives of award winners was also studied.

PROCEDURES

The descriptive method of research was utilized in this study. Following a review of pertinent literature, an inquiry form was developed to gather data from the participants. The inquiry form was organized into three parts. Part I was designed to determine 4-H characteristics of the respondent. Part II requested educational and occupational information. Part III was designed to gather information concerning the influence of 4-H on the participant's occupation and personal life. The instrument was pre-tested on a group of older 4-H members in Monongalia County for reliability and clarification. In addition, it was reviewed by Extension Specialists and County 4-H Agents to assure validity. After final revision, the inquiry form was mailed to 356 individuals, along with a cover letter co-signed by the investigator and the Extension Specialist who was primarily responsible for the West Virginia National 4-H Awards Program from 1967-1980. Ten questionnaires were returned by the post office for lack of forwarding addresses. A follow-up letter to nonrespondents solicited their cooperation in returning the questionnaires. By the deadline date, 346 4-H alumni had received the questionnaire of which 286, or 82.7%, had returned the completed form.

To check on nonresponse bias, a 20% random sample of nonrespondents was drawn from the population for follow-up telephone interviews. Eight key characteristics of respondents and nonrespondents were compared using the chi-square statistical procedure. The key characteristics selected for comparison were gender, age participant joined 4-H, residence as a member, individual who had the greatest influence on participant to initially join a 4-H club, whether the individual served as a 4-H junior/teen leader, total years of 4-H membership, highest level of formal education completed, and whether 4-H experiences influenced the participant to pursue further educational opportunities. Results revealed no significant differences between respondents and nonrespondents with regard to any of the characteristics tested.

FINDINGS

Of the 286 4-H alumni who participated in the study, 103 (36%) were males and 183 (64%) were females (Table 1). The majority of youth, 65%, joined 4-H at age 9 and there were no respondents who entered 4-H after age 13. Participants resided primarily in rural areas with 42% on farms and 33.9% in rural non farm residences. The remaining 24.1% resided in towns or cities in West Virginia. Over 93% of the respondents had belonged to 4-H for more than 8 years and more than 98% had held one or more offices in 4-H during their years of membership. Eighty-three percent of the alumni had served as 4-H junior/teen leaders and over 80% reported having membership in school organizations and church youth groups during their membership in 4-H. Immediate family members most greatly influenced the participants to join 4-H and to continue their 4-H membership (Table 2). Extension Agents were listed as the primary individuals who influenced respondents to participate in the National Awards Program.

Activities most frequently rated as "greatly enjoyed" by respondents were: camps (83%), trips/tours (74.5%), contests (55%), 4-H projects (45.3%), being an officer (37.1%), and club meetings (24.9%) (Table 3).

Over 66% of the participants were college graduates (Table 4), and over 62% indicated their 4-H experiences, as a whole, influenced their decisions to pursue further educational opportunities (Table 5). Over 55% of the alumni are currently in professional occupations; 16.9% are in occupations dealing with management, sales, or clerical responsibilities; 9.9% are currently homemakers; and less than 8% are craftsmen, operatives, and service workers (Table 6).

From one-half to three-fourths of the respondents considered their experiences in the six 4-H program categories as being somewhat important, important, or very important in their current occupations and in their personal lives. The program areas of Health, Public Speaking, Safety, Achievement, and Citizenship were rated by more than one-half of the alumni as very important in their current occupations. Slightly more than one-half of the respondents rated the knowledge, skills, or benefits acquired in the program areas of Health, Consumer Education, Foods-Nutrition, Home Environment, Public Speaking, and Safety as very important in their personal lives. Over 70% of those who had participated in the program areas of Achievement and Citizenship considered the program knowledge as very important in their personal lives.

Nearly all of the respondents, 94%, considered the leadership and personal development experiences as somewhat important, important, or very important in their current occupations and personal lives. Leadership activities viewed as important included visual presentations, being a junior leader, and being a camp counselor. Personal development aspects considered important by participants were "gave me self-confidence", "taught me responsibility", and "chance to meet and work with people."

Over 50% of the participants are currently involved in local community and church activities; and 20% are involved with school and civic organizations and 4-H (Table 7). Over 80% of the respondents indicated their 4-H experiences influenced their decisions to be involved in community activities (Table 8).

RECOMMENDATIONS

1. The current structure of the 4-H Program provides opportunities for young people to meet and work with other people, teaches responsibility, and helps youth gain self-confidence. As the 4-H Program is changed or new programs are developed, Extension personnel must remain cognizant of the activities which are contributing to these three areas. In addition, leadership experiences (being a teen leader, presenting visual presentations, and being a camp counselor) should be continued in the 4-H Program.

2. A majority of the respondents perceived that their 4-H experiences, as a whole, influenced their decisions to pursue further educational opportunities. Therefore, career exploration opportunities offered in the 4-H Program should be evaluated and ways to strengthen this phase of the program identified.

3. Volunteer leaders and agents influenced the youth to join the 4-H Program and participate in activities which are important in career development. Resource materials should be developed to assist leaders and agents to help youth explore educational and career opportunities.

4. Responses to this study revealed a continued interest in the 4-H Program by alumni. These individuals, in addition to new younger volunteers, should be identified by local agents and incorporated into leadership roles.

5. The National Awards Program is the culmination of an individual member's progress in 4-H and his/her project work. All youth participants should be provided with updated project and resource materials to enable them to transfer information into practical application. The incorporation of leadership and life skills development into all 4-H projects and the entire program will result in competent and mature adults. In order to achieve updated resource material in a time of limited staff and financial constraints, the Extension Service needs to strengthen their land-grant university support to enable the program to have advanced research, technical, and professional expertise to develop the needed program resources.

6. The implementation and continuation of the 4-H Program and, in particular, the National Awards Program, is contingent upon support from the private sector. A need exists to actively seek adequate support from the private sector. In order to do this, the Extension Service must plan carefully to ensure accountability to donors and enhance the image of 4-H through strong public relations.

7. National impact studies and the respondents in this investigation indicated a need to increase membership and promote the 4-H Program. Extension needs to utilize all available media resources to inform the general public of the diversity, usefulness, and availability of the 4-H Program to youth.

8. The 4-H Program must continue to assess the needs of youth and design programs to meet their expectations. An efficient research model needs to be developed by Extension faculty with support of land-grant university researchers to provide a workable and effective methodology to gather data to assist field faculty in assessing local programming. Through use of standardized methodology, this research package could be implemented to secure statewide data for use in long-term planning of successful programs in the coming decade.

Bibliography

Extension Committee on Organization and Policy (ECOP) Subcommittee on 4-H. (1984). Extension's 4-H: toward the '90's. Washington, D.C.: Extension Service, United States Department of Agriculture.

National 4-H Council. (1986). 4-H digest. Chevey Chase, Maryland.

Prawl, W., Medlin, R., and Gross, J. (1984). Adult and continuing education through the Cooperative Extension Service. Columbia, Missouri: University Printing Service.

Tumusiime, E. K., and Lawrence, L. D. (1985). Problems that hamper success of county 4-H programs. Paper presented at the Symposium on Extension Research Needs. Cooperative Extension Service and Agricultural Education Department, The Ohio State University, Columbus, OH.

Wessel, T., and Wessel, M. (1982). 4-H: An American idea, 1900-1980. Chevy Chase, Maryland: National 4-H Council.

Table 1

Characteristics of West Virginia Participants in the National Awards Program

Characteristics	Number	Percent
Gender		
Male	103	36.0
Female	183	64.0
Age Participant Joined 4-H		
<9	46	16.2
9	184	65.0
10	37	13.1
11	10	3.5
12	3	1.1
13	3	1.1
14	0	0
15	0	0
16	0	0
Residence As A 4-H Member		
Farm	120	42.0
Rural Nonfarm	97	33.9
Town or City	69	24.1
Main Reason Participant Joined 4-H		
Interested in 4-H Projects	52	18.4
Friends Belonged to 4-H	47	16.6
Participate in Club Meetings/Activities	56	19.8
Participate in Camps	18	6.4
Wanted to Join	78	27.5
No Other Youth Activities Existed in Community	20	7.1
Other	12	4.2
Total Years Of 4-H Membership		
2 - 3	0	0
4 - 5	1	0.4
6 - 7	18	6.3
8 - 9	75	26.4
10 - 11	105	37.0
12 & over	85	29.9
Offices Held In 4-H		
None	5	1.7
President	236	82.5
Vice President	217	75.9
Secretary	175	61.2
Treasurer	168	58.7
Reporter	184	64.3
Game Leader	183	64.0
Song Leader	179	62.6
Served As A 4-H Junior/Teen Leader		
Yes	234	83.0
No	48	17.0
Other Organizations To Which Participant Belonged As A 4-H Member		
Church Youth Groups	230	80.4
School Organizations	243	85.0
Boy/Girl Scouts	46	16.1
FFA/FHA	76	26.6
Other	25	8.7

Table 2

Individuals Who Influenced Participants To Initially Join a 4-H Club, Continue 4-H Membership, and Participate In The National Awards Program

Individuals	Number	Percent
Individual Who Had Greatest Influence on Participant to Initially Join a 4-H Club		
Parents/Guardian	164	57.3
Extension Agent	1	0.4
Local 4-H Leader	24	8.4
Sister or Brother	49	17.1
Another 4-H Member	33	11.5
Others	15	5.3
Individual Who Influenced Participant to Continue 4-H Membership		
Parents/Guardians	154	55.2
Extension Agent	31	11.2
Local 4-H Leader	52	18.6
Sister or Brother	10	3.6
Another 4-H Member	11	3.9
Others	21	7.5
Individual Who Influenced Participant to Participate in National Awards Program		
Parent/Guardian	95	33.3
Extension Agent	119	41.7
Local 4-H Leader	61	21.4
Sister or Brother	3	1.1
Another 4-H Member	2	0.7
Others	5	1.8

Table 3

Degree To Which 4-H Activities Were Enjoyed By Participants

	Greatly Enjoyed		Enjoyed		Did Not Enjoy	
Activity	No.	%	No.	%	No.	%
4-H Projects	129	45.3	153	53.7	3	1.0
Camps	234	83.0	44	15.6	4	1.4
Club Meetings	71	24.9	203	71.2	11	3.9
Trips/Tours	205	74.5	66	24.0	4	1.5
Contests	154	55.0	120	42.9	6	2.1
Being An Officer	102	37.1	166	60.4	7	2.5

Table 4

Highest Level of Formal Education Completed By Participants

Level of Education Completed	Number	Percent
Less Than High School	0	0
Some High School	0	0
High School Graduate	32	11.2
Technical School Graduate	15	5.2
2 Year College Graduate	30	10.5
College Graduate	99	34.6
Post Graduate	94	32.9
Other	16	5.6

Table 5

Whether 4-H Experiences Influenced Participants To Pursue Further Educational Opportunities

Responses	Number	Percent
Yes	174	62.6
No	57	20.5
Uncertain	47	16.9

Table 6

Current Occupational Classifications of Participants

Occupational Classification	Number	Percent
Professional	157	55.3
Farmer	9	3.2
Managers, Sales, Clerical	48	16.9
Craftsmen, Operatives, Service Workers	21	7.3
Private Household Workers	28	9.9
Military	5	1.8
Other	16	5.6

Table 7

Participants' Current Involvement in Community Activities

Activities In Which Participant Is Currently Involved	Yes		No	
	No.	%	No.	%
School	81	28.4	204	71.6
Church Organizations	145	50.7	141	49.3
Civic Organizations	66	23.1	220	76.9
4-H	66	23.1	220	76.9
Other Youth Organizations	25	8.7	261	91.3
Government Activities	22	7.7	264	92.3
Other	59	20.6	227	79.4

Table 8

Influence of 4-H Experiences on Current Involvement In Community Activities

Responses	Number	Percent
Yes	210	82.4
No	20	7.8
Uncertain	25	9.8

4-H IMPACT ON ALUMNI

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Layle D. Lawrence

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Accountability to the private sector that has generously dedicated dollars and personnel to such large national 4-H programs as curriculum, awards and recognition, and staff development is critical to the continued success of Extension youth development. The authors grasped that significance in creating a descriptive profile of West Virginia's state winners in the National 4-H Awards Program. The data indicate that this audience did credit their 4-H experiences as being influential in their life skills development.

Some readers might have been mislead by the title and some of the recommendations, however, that this piece can be generalized to all participants in the 4-H program. There is a critical assumption made by the researchers that I would have preferred to have been stated; that is, that state winners in the National Awards Program were assumed to be no different than non-winning 4-H participants, in either demographic or perceptual variables. We need to know whether or not these relative few (approximately less than .01%) are representative of all West Virginia 4-H participants in the years studied. The linkage is very weak to substantiate such an assumption. Many 4-H members have successful, lengthy, experiences in Extension Youth Development programs but have never been introduced, supported, or interested in the National 4-H Awards program competition. In order to generalize to the larger population, all 4-H alumni should have been the frame.

The researchers were careful in establishing reliability and validity norms in their instruments, although reliability coefficients were not reported. The respondents were asked to indicate whether or not 4-H was influential in various areas of personal and career development. I feel that summated scales would have strengthened the data collected in this area rather than the "Yes/No" format employed. The final description would have been enriched had we known to what extent 4-H was influential when compared with other sources.

I felt that some of the choices of occupational classifications of the participants listed in Table 6 were unclear. While 55% were self-described professionals, one might ask "Professional what?" The traditional "professional" occupations (law, medicine, the letters, etc.) require graduate degrees. Only 33% of the respondents had completed graduate training. The terms "managers," "sales," "clerical," "operatives" and "service workers" were intermingled, thus confusing occupational field with job role or responsibility.

The transition between the Findings and Recommendations would have been made easier for the reader had a Summary or Conclusions section been added.

This paragraph could have been a composite word picture of a typical National 4-H Awards program alumnus. The Recommendations could have flowed more easily from this presentation of the data.

One must be careful not to overextend the recommendations beyond the focus and evidence provided in the data. Such, unfortunately, is the case for Recommendations 4 through 9 of this paper. I could not find data that addressed these points in the paper as written. Some are assumed or felt by youth development educators and 4-H awards program supporters, but such perceptions were not gathered as objectives of this study. Caution must again be extended in overgeneralizing the findings to non-relevant populations. Recommendation 3 incorrectly summarizes the data in Table 2 where "parents and guardians" and "agents" are the two most influential groups in persuading youth to join 4-H and to participate in activities. Volunteer leaders rank either third or fourth.

DEVELOPMENT OF LIFE SKILLS OF 4-H CLUB MEMBERS

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INTRODUCTION

The 4-H program is dedicated to helping youth become self-directing, productive and contributing members of society. This mission is accomplished through innovative educational programs which enhance the development of abilities that are useful for living everyday life. These abilities are called "life skills" which include thinking or competency skills such as acquiring subject matter knowledge, coping or feeling skills such as learning to respect other people, and contributory or doing skills such as learning and practicing leadership roles.

No single theory fully explains the concept of personal development of life skills. Life skill development concepts are found in numerous theories of psychological and sociological development. Theorists such as Piaget, Freud, Erickson, Bandura, Maslow, Peck, Havinghurst, Kohlberg and others have suggested explanations of how adolescents acquire life skills and provide a framework for understanding personal development.

Since its beginning in the early 1900´s, 4-H has responded to societal changes by adapting to meet the prevailing needs of society. In earlier years, 4-H concentrated on teaching youth agriculture and home economics skills. 4-H was used as a means of teaching modern agricultural technology to farmers and home economics skills to homemakers. Vocational training of rural and farm youth was a primary role of 4-H programs. Now the development of life skills is stressed as youth deal with today´s rapid-moving, ever-changing society. Collins (1986) sees the development of life skills as more than the physical skills of sewing or grooming animals for show. Life skills enable 4-H members to accept responsibilities and become competent, contributing citizens.

The 4-H program offers a wide variety of projects for youth participation. The projects are developed by subject matter specialists at the land-grant universities in the areas of science and technology, agriculture, home economics and personal development. The 4-H junior leadership project is available only to older (14 to 19 year old) 4-H members. Junior leaders participate in clubs helping younger 4-H members, work to improve the community, help with the 4-H program and participate in educational programs on leadership.

4-H project work and the junior leadership program are only two of the many ways 4-H develops life skills in youth. Other 4-H activities include, school enrichment programs, workshops, camps, trips, exhibits, and contests. Does participation in 4-H programs help youth in the area of personal development of competency, coping and contributory life skills? If so, does participation in the junior leadership program help 4-H youth to be more advanced in life skill development? Answers to these questions may help agents, volunteer leaders, and state specialists to offer better opportunities for life skill development and to help youth to become self-directing, productive, and contributing members of society.

By examining personal characteristics of 4-H members, factors related to development of life skills may be discovered. Hamer (1981) and Williams (1983) found that some life skills are developed as a result of increased 4-H participation. Collins (1986) found that girls rated their total learning of life skills in 4-H higher than did boys. Information regarding the relationship between life skill development and personal characteristics, participation in 4-H projects, and participation in the junior leadership project or club will be of value to 4-H agents and volunteer leaders. Knowledge gained in the area of youth development and adolescence can be used to provide a more effective educational program for youth.

It was not known to what degree Louisiana junior and senior 4-H club members perceived their personal development of life skills or the impact of specific 4-H programs such as junior leadership. In order to determine if the objectives of 4-H are being met, an evaluation of 4-H program effectiveness was needed. The results of this study can be used by extension professionals and volunteer leaders to evaluate program effectiveness for future planning and accountability, to determine the needs of 4-H youth in the area of life skill development, and to gain a better understanding of youth development.

PURPOSE AND OBJECTIVES

The purpose of this study was to investigate the development of competency, coping, and contributory life skills as perceived by 4-H club members in Louisiana. The specific objectives of the study included:

1. To measure the personal development of competency, coping, and contributory life skills as perceived by high school junior and senior 4-H club members in Louisiana.

2. To determine if differences exist between 4-H junior leadership club members and non-junior leadership club members' self-perceived personal development of competency, coping, and contributory life skills.

3. To determine if relationships exist between perceived competency, coping, and contributory life skill development and 4-H project participation of junior and senior 4-H club members.

4. To determine if relationships exist between perceived competency, coping, and contributory life skill development and personal characteristics.

PROCEDURES

The target population for this study was high school junior and senior 4-H club members in Louisiana. The accessible population included the 1987-88 high school junior and senior 4-H club members of parishes with a junior leadership club. A stratified cluster sampling procedure was used to select the sample. Two parishes from each of the nine geographic Louisiana Cooperative Extension Service areas were randomly selected. Junior and senior high school 4-H club members who attended a regular monthly meeting in the selected parishes during the spring of 1988 participated in the study.

The instrument used in this study was a modified version of the Personal Development Inventory (PDI) and a Louisiana 4-H member survey. The PDI was developed at Iowa State University and the 4-H member survey was developed by the 4-H subcommittee of the Louisiana Cooperative Extension Service Evaluation Committee. Thirty-three items were taken from the PDI instrument; the remaining 27 items were revised statements taken from the 4-H member survey.

The 60-item Life Skill Development (LSD) instrument contains three major scales to represent the three 4-H life skill development areas. These scales are competency, coping, and contributory. The three major scales were divided into sub-scales to represent each of the nine 4-H objectives classified under the 4-H life skill development areas. These sub-scales are health, learning, career orientation, resource management, self-confidence, cooperation, leisure, leadership, and citizenship.

In this survey, 4-H members were asked to indicate to what degree their experiences in 4-H benefitted them in selected areas. The respondents indicated their level of agreement or disagreement with the LSD items on a 7-point Likert-type scale with the following choices available to the respondents: 1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neither agree nor disagree; 5=slightly agree; 6=agree; and 7=strongly agree. Information on personal characteristics and 4-H experiences was also collected to determine relationships between these characteristics and life skill development.

A validation panel consisting of six parish 4-H agents, three state 4-H specialists, and three former 4-H members was asked to review the instrument. A field test was administered in two parishes not drawn in the sample to estimate reliability. Revisions were made based on the suggestions of the validation panel and results from the field test. Reliability coefficients for the LSD instrument were calculated using Cronbach's Alpha procedure to determine the internal consistency of the instrument. Each scale had a reliability coefficient of at least .60 for the study. The reliability of the total LSD instrument was .935; therefore, the internal consistency of the total instrument was considered good.

The final instrument was prepared and distributed by mail to the selected parishes. Parish agents administered the instrument during a monthly 4-H meeting and returned them to the researcher. Five hundred seventy-four completed questionnaires were returned from 17 of the 18 parishes. Of the 574 cases included in the study, 43 were not used. Seven questionnaires were unusable and 36 respondents were not juniors or seniors. A total of 531 cases were used in the study. The data received were recorded and analyzed using primarily descriptive statistics. The total LSD score and a scale score for each of the major scales and nine sub-scales was calculated for each case.

RESULTS

Personal characteristics of the high school junior and senior 4-H club members responding were as follows:

Age. The age of the respondents ranged from 14-20, with a mean age of 16.8. Seventy-six percent of the respondents were 16 or 17 years old.

Gender. Two hundred twenty-seven of the respondents were male, accounting for 43% of the sample and 304 were females, accounting for 57% of the respondents.

Year in School. Three hundred six of the respondents were juniors, accounting for 58% of the sample and 223 were seniors, accounting for 42% of the sample.

Geographic Area. Eighty-seven percent of the respondents lived either on a farm (28%) or in towns under 10,000 and open country (59%). the remaining 13% lived in towns and cities 10,000-50,000, suburbs of cities and central cities over 50,000.

4-H Experiences. 4-H experiences were also considered as personal characteristics. The average years enrolled in 4-H was 5.8 with a standard deviation of 4.06. The mean for years enrolled in the junior leadership project was 1.4. The average years in the junior leadership club was 1.3 years.

Life Skill Development

The total LSD mean score and mean scores for each of the three major scales and nine sub-scales were calculated and the results are presented in Table 1. Mean values for the scales were calculated by averaging responses to the items on the LSD instrument for each scale. The Total LSD mean is the average of all 60 items. The competency scale contained 28 items, the coping scale contained 18 items, and the contributory scale contained 14 items. Each subscale contained 6 or more items. 4-H members tended to agree that they had acquired the life skills measured. Mean values ranged from 5.3 to 6.1 for all the scales and sub-scales. Of the three major life skill area scales, the coping scale had the highest mean score (5.80) and the contributory scale had the lowest mean score (5.53). The cooperation sub-scale had the highest mean score (6.14) and the leisure sub-scale had the lowest mean score (5.32).

Table 1

LSD Scale Scores

Scale	Mean[a]	Standard Deviation
Total LSD	5.65	.63
Competency	5.65	.62
Health	5.84	.71
Learning	5.50	.83
Career Orientation	5.57	.80
Resource Management	5.68	.75
Coping	5.80	.64
Self-Confidence	5.94	.71
Cooperation	6.14	.68
Leisure	5.32	.93
Contributory	5.53	.74
Leadership	5.61	.80
Citizenship	5.48	.82

[a]Responses were based on a continuum where 1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neither agree nor disagree; 5=slightly agree; 6=agree; and 7=strongly agree.

Differences in Life Skill Development of Junior Leadership Club Members and Non-Members

4-H members were grouped into two groups, (a) 4-H junior leadership club members and (b) non-junior leadership club members. T-tests of group means were used to determine if significant differences in self-perceived personal development of competency, coping, and contributory life skills existed between junior leadership club members and non-junior leadership club members. Results of the t-tests for each LSD scale are summarized in Table 2. Coping life skills was the only major life skill area which showed a significant difference between the two groups.

Table 2

Differences in Perceived Life Skill Development Between Junior Leadership Club Members and Non-Junior Leadership Club Members

Scale	N	Group[a]	Mean	Standard Deviation	T-Value	Probability
Total LSD	268	a	5.64	.60	0.70	0.484
	250	b	5.67	.60		
Competency	262	a	5.63	.60	0.55	0.582
	242	b	5.66	.63		
Coping	266	a	5.73	.63	2.80	0.005
	245	b	5.89	.64		
Contributory	261	a	5.55	.75	-.78	0.434
	247	b	5.50	.71		

[a] Total respondents were grouped in two groups: (a) junior leadership club members and (b) non-junior leadership club members.

Since the analysis resulted in a significant difference in self-perceived personal development of coping life skills, 4-H objectives classified as coping life skills were investigated further. A significant difference was found between the groups for two of the three objectives classified as coping life skills, self-confidence and leisure life skills as shown in Table 3. Non-junior leadership club members had higher mean values for coping, self-confidence, and leisure life skills development. The higher mean values and t-test results indicate that non-junior leadership club members perceived themselves more advanced in overall coping life skills development, self-confidence life skills development, and leisure life skills development than the junior leadership club members.

Relationship Between Life Skill Development and Project Participation

A 4-H project participation score was calculated for each respondent by adding the number of years students were enrolled in any project. Pearson's correlation was used to determine if significant relationships existed between life skill development and 4-H project participation. The relationships are presented in Table 4. The magnitude of the relationships can be classified as negligible. The analysis indicated significant positive relationships between 4-H project participation and total life skill development and competency life skill development. A significant relationship ($r=.14$, $p<.01$) was found for contributory life skill development.

Table 3

4-H Objectives Classified as Coping Life Skills: Comparison by Group

Scale	N	Group[a]	Mean[b]	Deviation	T-Value	Probability
Coping	266	a	5.73	.63	2.80	0.005
	245	b	5.89	.64		
Self-Confidence	267	a	5.86	.74	2.64	0.009
	246	b	6.03	.66		
Cooperation	267	a	6.10	.68	1.45	0.147
	246	b	6.19	.67		
Leisure	266	a	5.22	.89	2.22	0.027
	247	b	5.41	.97		

[a] Total respondents were grouped in two groups: (a) junior leadership club members and (b) non-junior leadership club members.

[b] Responses were based on a continuum where 1=strongly disagree; 2=disagree; 3=slightly disagree; 4=neither agree nor disagree; 5=slightly agree; 6=agree; and 7=strongly agree.

Table 4

Relationship Between the LSD Scale Scores and 4-H Project Participation

Scale	N	r[a]	Probability
Total LSD	478	.11	.012
Competency	466	.12	.012
Coping	473	.04	.330
Contributory	469	.14	.002

[a] Pearson Correlation Coefficient

Relationships Between Life Skill Development and Personal Characteristics

Pearson correlations were calculated to determine if relationships existed between self-perceived competency, coping and contributory life skill development and selected personal characteristics. The magnitude of all relationships was classified as negligible. Significant relationships between life skill development and selected personal characteristics are shown in Table 5.'

Gender. Significant positive relationships were found between sex of 4-H members and the self-perceived development of competency and coping life skills ($r=.09$, $p<.05$).

Year in School. Significant positive relationships were also found between 4-H members' year in school and self-perceived development of total life skills ($r=.10$, $p<.05$). competency life skills ($r=.12$, $p<.01$), and contributory life skills ($r=.13$, $p<.01$).

Years in 4-H. A significant positive relationship existed between self-perceived contributory life skill development and the number of years members were enrolled in 4-H ($r=.11$, $p<.05$).

Years in Junior Leadership. A significant positive relationship existed between self-perceived contributory life skill development and the number of years 4-H members were in the junior leadership club ($r=.09$, $p<05$).

No significant relationships were found between 4-H members' age and self-perceived life skill development or geographic area in which 4-H members lived.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings of this study, the following conclusions were drawn by the researcher.

1. High school junior and senior 4-H members agree that they have acquired the life skills contained in the 4-H objectives.
2. Non-junior leadership club members perceived themselves to be more advanced in one major skill area, coping life skill development, and in two 4-H objective life skill areas, self-confidence and leisure life skill development.
3. Only negligible relationships were found between life skill development and 4-H project participation and personal characteristics of the respondents.

Table 5

Relationship Between Life Skill Development and Personal Characteristics

Scale	N	r	Probability
Gender			
Total LSD	531	.08	.083
Competency	515	.09	.046
Coping	523	.09	.031
Contributory	519	.04	.338
Year in School			
Total LSD	529	.10	.017
Competency	514	.12	.005
Coping	521	.07	.124
Contributory	517	.13	.004
Years in 4-H			
Total LSD	527	.08	.068
Competency	513	.08	.074
Coping	520	.02	.673
Contributory	516	.11	.014
Years in Junior Leadership Club			
Total LSD	521	.02	.576
Competency	507	.02	.655
Coping	514	-.07	.133
Contributory	510	.09	.033

The remaining conclusions based upon tests of statistical significance indicate that the investigated relationships exist. The reader is reminded that the magnitude of these relationships was negligible.

4. 4-H members with higher 4-H project participation scores tended to perceive themselves to be more advanced in overall life skill development and in two major life skill areas, competency and contributory life skills.

5. Female 4-H members have a greater self-perceived development in two major life skill areas, competency and coping life skills.

6. 4-H members in their senior year of school have a greater self-perceived overall life skill development in two of the major life skill areas, competency and contributory life skills.

7. 4-H members who indicated more years enrolled in 4-H perceived themselves to be more advanced in the major life skill area, contributory life skills.

8. 4-H members who indicated more years as members of the junior leadership club perceived themselves to be more advanced in the major life skill area of contributory life skills.

Recommendations

1. Extension staff should encourage youth to remain active in the 4-H program. Activities and projects that enhance development of contributory and coping life skills should be continued.

2. Extension staff should encourage youth to remain in the junior leadership club and activities that enhance development of competency and contributory life skills should be continued.

3. Extension staff should plan specific activities to help 4-H junior leaders accomplish coping life skills which include 4-H objectives related to the development of self-confidence life skills, cooperation life skills, and leisure life skills.

Recommendations for Further Research

1. A similar study on personal development of 4-H members and non-4-H members should be conducted.

2. A study on personal development of specific 4-H objectives/life skills should be conducted for specific projects or activities such as Junior Leader Conference, 4-H Camp, Challenge Camp, and educational trips (pre-test/post-test).

3. A study should be conducted to determine what causes non-junior leadership club members to perceive themselves to be more advanced in coping life skill development than junior leadership club members.

4. The relationship between life skill development and factors other than 4-H project participation and personal characteristics should be investigated.

REFERENCES

Collins, O. P. (1986). Who's the real teacher? _Journal of Extension_, _24_, 11-13.

Hamer, R. B. (1981). _4-H participation as perceived by twelfth grade members in Delaware County, Iowa_. Unpublished master's thesis, Iowa State University, Ames, IA.

Williams, N. W. (1983). _An evaluation of gains made by Utah 4-H members in animal science skills and life skills as perceived by members and parents_. Unpublished master's thesis, Utah State University, Logan, UT.

A COMPARISON OF ADVANTAGED AND DISADVANTAGED POPULATIONS OF ADULT LEARNERS USING THE EXPECTANCY-VALENCE PARADIGM OF MOTIVATION AND ADULT LEARNER PARTICIPATION

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As the Cooperative Extension System continues to diversify its clientele, understanding what draws and retains audiences is of critical importance. Dr. Van Tilburg has developed the problem and grounded the investigation in sound theory. The review of literature is particularly well researched.

Assumptions and limitations were openly set forth by the investigator. Such frankness greatly assists the reader in interpreting the significance of the findings. The rigor and thoroughness of the study is appreciated and sets a fine example of going beyond description when conducting social science research.

After such a strong introduction and development of the relevance and nature of the phenomena, I wish additional time had been taken to develop the Results section of the paper. The factors were abbreviated to one or two word "working titles" without adequate definition. Some of the terms such as "learning process," "social involvement," "actual arrangements" and "internal commitment" leave some question as to whether they deal with the instructor or student. Clearly setting forth the components that built these factors would have strengthened the finale.

Unlike the other papers presented during this session, all of the conclusions and implications of this paper were consistent with the objectives and findings. They were well targeted, concise and easily implemented. This is a superior example of systematic inquiry.

DEVELOPMENT OF LIFE SKILLS
OF 4-H CLUB MEMBERS

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The authors are to be commended for a thoughtful, well developed investigation. The review of literature was brief yet covered all of the bases, with citations of the classic theorists of human development as well as recent applied findings from Extension youth development research. Life skill development is the intended end product of Extension education for youth. Without data of this type, we as educators have no way of knowing if we are making a significant difference in the lives of young people. The topic is of utmost importance and relevance as our children become the major issue facing America in the next decade.

The instrumentation was well developed with highly acceptable reliability coefficients. Although I would caution against selectively dissecting standardized instruments such as Iowa State's Personal Development Inventory, the authors did develop new reliability coefficients for their hybrid instrument.

The Findings were set forth very clearly and were easy to follow. I was pleased to see the relative balance between male and female participants in the sample. In many older 4-H teen populations, young women outnumber young men to a much larger proportion. Surprising, however, was the age range of the respondents (14-20). Too frequently we perceive all high school juniors and seniors as being either 16 or 17. That 20 year olds are still involved in 4-H may be a source of some "static" in the data, but I'm sure that is not significant.

The statistics used were appropriate for the study. The authors cautioned the reader several times in their thorough reporting of the relational findings that associations were all negligible. Of most significance was the development of life skills within and outside of the junior leadership clubs. The fact that non-junior leadership club members either exceeded or were statistically no different from participants in the critical objectives tells us that junior leadership club participation may not be as critical as thought. This contradicts Recommendation #2, that the data indicates that youth should be encouraged to remain in the junior leadership club. Further study (as suggested in "Further Research #3) would help us to understand how the non-members and members are alike or dissimilar. Junior leadership clubs may provide a supportive atmosphere in which certain personalities may achieve their potential. These clubs may not be necessary for youth with sufficient personal or social support systems. To apply the findings, we would ultimately need to know what type of youth would benefit from the club and for whom participation would be purely elective.

A COMPARISON OF ADVANTAGED AND DISADVANTAGED POPULATIONS OF ADULT LEARNERS USING THE EXPECTANCY-VALENCE PARADIGM OF MOTIVATION AND ADULT LEARNER PARTICIPATION

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INTRODUCTION

Background

Lifelong learning is not a new concept but is growing in importance as the speed at which the world changes increases. As science and technology research enlarges the knowledge base and new information can be transmitted in seconds across the globe, individuals struggle to keep up with new innovations. The pace at which learning must take place to process new knowledge is alarming, perhaps even threatening, to many adult learners (Cross, 1981).

Additionally, Cross suggested that the United States is rapidly becoming a nation of adults and that in 20 years, the majority of Americans will be middle-aged. Thus, the need to provide educational opportunities for continuing lifelong learners has never been as apparent as in these last decades of the twentieth century. Not only will there be more adult learners, but they will exhibit different needs than previous populations of knowledge-seeking adults.

The traditional adult education program is all but extinct and a new breed of adult instruction has appeared; one which caters to individuals returning to the work force, those in need of retraining, displaced workers, women appearing in the job market for the first time, farmers and members of other disappearing careers needing guidance and training, and adults simply struggling to keep up with life. All these adult learner populations produce a new set of needs and problems. Providers of adult learning opportunities have never been a more needed, yet challenged, resource.

Still, with all the new populations of potential adult learners, the original questions of adult learning theory continue to perplex and challenge adult educators. Who will participate in adult education opportunities? Why do they participate? What impacts occur as a result of participation? Why do the learners who "need it most" tend to be the ones who participate the least? That cultural background, age, life experiences, and status in society share some of the same motivations in their endeavors. A new perspective on these questions and their answers could help to produce a solid framework in which educational organizations could build sound learning opportunities for lifelong learners (Boshier, 1971; Mezirow, 1971).

The Cooperative Extension Service is one of the largest adult education organizations in the world. Extension serves a diverse set of publics helping to develop a variety of individual skills that encourage personal growth through experiences, aid in attainment and refinement of problem-solving skills, and provide the acquisition of new information to be used in life-enriching activities (Rossano, 1985). In fact, enriching the quality of life through continuing lifelong learning opportunities has been the Extension mission since its inception in 1914 (Prawl, Medlin, & Gross, 1984).

A basic assumption in adult education and participation theory is that adult learners exhibit different characteristics from traditional students simply because they are adults. Regardless of the myriad of other reasons suggested to be related to participation in adult education programs, the simple fact that adults come with their own unique set of life experiences provides adult learners with a different set of criteria to be used in decision-making than that of traditional students.

Thus, one approach to understanding the adult learner which fits well into these identified adult characteristics is to use an instrumental theory of human motivation and participation to investigate questions and hypotheses because the theory emphasizes cognitive ability and individual characteristics and choices.

A second assumption specifically for development of the rationale of this study is that all adults who participate in learning activities share some common characteristics. The assumption that, regardless of cultural background or whether advantaged or disadvantaged, adult learners who participate in learning opportunities share some of the same basic motivating factors and characteristics suggests the application of a rather generic model of human motivation to test out this second assumption. In other words, the hypothesis is that adults participating in literacy programs in south London share some of the same motivation as Ohio farmers choosing to participate in a farm financial crisis program.

The emphasis of individual circumstances, abilities and traits, role perceptions, and future anticipated valued rewards provides the rationale for using the expectancy-valence theory of human motivation (Vroom, 1964) as the theoretical framework for this study. Porter and Lawler (1968) used Vroom's expectancy-valence theory agreeing that because humans are rational, cognitive beings, able to anticipate outcomes of behavior, a model of motivation should include both perceptions of reality and perceptions of probabilities of the occurrence of those realities.

Thus, the model they adopted included various components consisting of perceived realities and perceived probabilities of reality occurring. This rather sophisticated approach to decision-making can very easily be applied to adult participation motivation.

In its simplest form, this model suggested that an individual perceives an outcome which is valued. The individual also perceives that a certain level of performance is needed to obtain that outcome. Finally, the individual perceives a certain amount of effort is needed to obtain the level of performance. Working backward from outcome to effort, the individual places a probability at each crossroad. What is the probability that a certain amount of effort will lead to a needed level of performance? What is the probability that the needed amount of performance will lead to an obtained outcome and, in fact, is that outcome desirable or valued anyway? Additional variables included in the model are (a) individual abilities and traits, and (b) role perceptions.

A more recent model using Vroom's (1964) original theory on motivation was directly applied to adult learning theory by Rubenson (1977). He developed a framework with expectancy/valence properties which attempted to account for the competing forces within individuals when making the decision to participate. Much of the previous work in participation focused on (a) demographics of adult learners (age, sex, race) (Dickinson & Rusnell, 1971), or (b) barriers to learning and participation (Carp, Peterson, & Roelfs, 1974), but little had been done pursuing the individual choice made based on perceptions of reality.

The model de-emphasizes external barriers to participation and emphasizes the internal motivational factors at work in the participation phenomenon. In a sense, the model is taking a positive rather than negative approach to participation. External barriers are included in the model, however, Rubenson rather implicitly suggests that real barriers are not important; perceptions of barriers are the factors influencing participation. If something is perceived as a barrier, it acts as such whether, in reality, it is or not.

Rubenson's model served as the inspirational framework for the study which investigated the process by which an adult learner chooses to participate in an educational program.

Previous Research

A number of authors (Cross, 1981; Scanlon, 1986; Johnstone & Rivera, 1965; Larson, 1980; Darkenwald, 1980; Lindamood, 1975; Boshier, 1971; Houle, 1961; Boshier & Collins, 1985) have identified categories of factors that act as barriers or encouragers to adult participation. Johnstone and Rivera (1965) have used terms such as situational barriers (time, money, child care, transportation, weather), institutional barriers (factors pertaining to the educational service provider), sociodemographic barriers (age, sex, race, income, educational level, and geographic location) and dispositional factors (self-esteem, group participation) in describing adult responses.

According to Cross (1979), about one-fourth of the adult population experiences "informational barriers," that is, they do not know where to go or who to ask to get information about learning opportunities, especially low socioeconomic adults and those living in rural areas.

Situational barriers such as child care, shift or overtime work, lack of transportation, poor health and lack of time or money are particularly a problem for low socioeconomic adults and the elderly than the average middle-class adult.

Institutional barriers (inconvenient class schedules, full-time fees for part-time study, restrictive locations and the like) often exclude or discourage certain groups of learners such as the poor, the undereducated and the foreign born. In addition, adults living in certain geographic areas are less likely to participate in educational opportunities, especially those living in small towns and rural areas (Johnstone & Rivera, 1965).

Another major barrier to adult participation has been the psychological perceptions of the educational experience held by low and working-class persons. According to Darkenwald (1980), these persons feel that education has little intrinsic value, that it is relatively useless as a means of achieving personal goals. Education is inappropriate for mature adults (especially men), and many view education as burdensome, unpleasant or frightening. Darkenwald (1980) found that people involved in the potential student's social environment have a strong influence on his or her desire to conform to existing values and norms regardless of his or her class, ethnic background or socioeconomic status. In addition, Goodrow (1975) in Spencer (1980) reported that those who lack educational attainment avoid new activities that might rekindle feelings of inferiority. Johnstone and Rivera (1965) concluded that the attitude of older adults toward learning is influenced more by socioeconomic status than by age or social role.

Johnstone and Rivera (1965) found that there was no difference in participation of the sexes, little difference between religious affiliations and insignificant racial and ethnic differences. Teichert (1969) reported that, on the whole, non-participants were less career oriented, more complacent, more satisfied with the status quo, less restless, less ambitious, less gregarious and spent less time outside the home in leisure activities. In addition, London, Wenkert, and Haggerstrom (1963) concluded that persons were least likely to participate who delineated social participation, restricted their circle of friends and had only a passive involvement in vocational activities.

In summary, there have been a multitude of studies which have tried to identify specific categories of barriers and motivators to participation. Very few studies have looked at how factors may take on both the role of the barrier and the encourager depending on how the individual perceives it.

PURPOSE AND OBJECTIVES

This study of adult participation in Extension educational programs was based on three philosophical tenets: (1) Adult learners are more capable of rational thinking and anticipating outcomes of participation and performance behavior than younger, more traditional students, thus the choice of an integrated model of human motivation to guide the study (Vroom's expectancy valence model, 1964); (2) Individual differences act upon that decision-making process to alter perceptions of encouragers and barriers to participation and persistence so that different groups of learners perceive factors differently; (3) Factors which influence the decision to participate may be different than factors which influence the decision to persist through an educational program.

The major purpose of the study was to investigate tenets 2 and 3 with specific focus on the differences between two groups of clientele: advantaged and disadvantaged. Educational achievement level and occupation level were used to operationalize advantaged and disadvantaged categories of participants according to Bell (1973).

Research questions used to guide the study included:

1. What are the factors that are related to participation and persistence for advantaged and disadvantaged populations?

2. Are those factors different for advantaged and disadvantaged populations?

3. What are the outcomes of participation and persistence for advantaged and disadvantaged populations?

4. What are the best predictors of satisfaction with participation and persistence for advantaged and disadvantaged populations?

PROCEDURES

This study was correlational allowing the researcher to investigate relationships between variables.

Population

The target population was Ohio Cooperative Extension Service (OCES) adult clientele who had participated in any multi-session Extension program during 1986-87. Through interviews with OCES administration an estimated target population of 20,000 was determined. Lists of clientele participating in multi-session programs were solicited from all county agents in Ohio. A total of 599 names were offered and this list became the sample. An extensive demographic comparison (age, gender, race, place of residence) between the sample and the target population using OCES records was conducted to help alleviate external validity threats (see discussion in data collection).

Instrumentation

The instrument used to gather data was a mail questionnaire with two forms: one used to collect data on the decision to participate and the other used to collect data on the decision to persist. The instruments were field-tested for content validity using selected OCES advisory committee members (n = 15). Construct validity was confirmed using factor analysis. Cronbach's alphas of factors ranged from .73 to .92. Likert-type items used to measure barriers/encouragers (51 items) were scaled as follows: 1 = discouraging to 7 = encouraging. Outcomes were measured using a similar 4-point scale (1 = strongly disagree to 4 = strongly agree; 25 items) and satisfaction was a simple 5-response choice item. Likert-type items were assumed to produce interval level data as supported by Adams, Fagot and Robinson (1965).

Data Collection

Data were collected during October-November 1987 following the Dillman procedure for mail questionnaire administration (1978). The sample was randomly divided into two groups; one received the "participate" questions, the other, the "persist" questions. All answered the outcomes and satisfaction information.

A total data sample of 276 (46%) was obtained. This number included 114 who attended agricultural-related programs, 52 from home economics, 5 from 4-H, 27 from community and natural resource development and 81 who listed "other" types of programs. A follow-up telephone interview was conducted with a random sample of 10% of the nonrespondents; no differences were found, thus, results were generalized to the entire sample of 599. Readers may want to consider the nonrandomness of the total sample before generalizing to the target population even though, based on demographic comparisons, there is little reason to believe that the sample is not representative of the target population.

Analysis of Data

Analysis using principal-component factor analysis on the SPSS-X statistical package was used to identify factors related to participation and persistence as well as to reduce outcome items to meaningful factors. Orthogonal varimax rotation of the matrix was used to increase interpretability of the factors. To identify factor components, factor loadings of .5 and greater were included. Multiple regression and simple Pearson correlation coefficients were used to determine relationships between variables and best predictors.

RESULTS

There were five factors related to the decision to participate for both advantaged and disadvantaged. The factors shared by both groups were quality of information and anticipated difficulty with arrangements. Factors which emerged for the advantaged group also included the learning process, social involvement, and teacher quality. Factors which were unique for the disadvantaged group were type of instruction, general communication about and during the program, and internal commitment. (Tables 1 and 2)

Factors related to the decision to persist shared by both groups were again the information factor and actual arrangements. Factors unique to advantaged were personal commitment, teacher quality, and social experiences. Factors unique to disadvantaged included teacher/instruction, internal commitment, and stimulation received. (Tables 3 and 4)

Two factors emerged related to outcomes of participation and persistence for the advantaged group: positive and negative. The factor structure for the disadvantaged group was somewhat more complicated with five factors emerging: negative experiences, self-improvement, positive information, negative information, and negative social experiences. (Tables 5 and 6)

For the advantaged group, the best predictors of satisfaction were positive outcomes and the quality of information gained. (Regression model: $Y' = -2.963 + .158X_1 + .056X_2$). For disadvantaged, the best predictors were communication and negative experiences. (Regression model: $Y' = 3.971 + .074X_1 - .137X_2$). (Tables 7 and 8)

CONCLUSIONS AND IMPLICATIONS

1. For both advantaged and disadvantaged clientele, the quality of information and arrangements related to participation are factors individuals consider before and during involvement in educational programs. The Extension Service should continue to develop programs which offer quality, research-based information. These programs should be offered to provide ease of arrangements for participation including child care, convenient location, inexpensive cost, and time of offering.

2. Disadvantaged clientele do not consider social involvement as a factor in participation and persistence and in fact, include certain social experiences as a possible negative outcome of participation. Programs directed at this particular type of client should not be developed and marketed with a social experience as an important component.

3. Quality of information and general positive outcomes were the best predictors for satisfaction of advantaged clientele while quality communication before and during the program and the lack of negative experiences were best predictors of disadvantaged clientele satisfaction. The Extension Service should pay particular attention to these components of an educational program depending upon the type of clientele targeted.

REFERENCES

Adams, E. W., Fagot, R. F., & Robinson, R. E. (1965). A theory of appropriate statistics. Psychometrika, 30(2), 99-127.

Bell, D. (1973). The coming of post-industrial society: A venture in social forecasting. New York: Basic Books, Inc.

Boshier, R. (1971). Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. Adult Education, 21(2), 3-26.

Boshier, R., & Collins, J. B. (1985). The Houle typology after twenty-two years: A large-scale empirical test. Adult Education Quarterly, 35(3), 113-130.

Carp, A., Peterson, R., & Roelfe, P. (1974). Adult learning interests and experiences. In K. P. Cross & J. R. Valley (Eds.), Planning nontraditional programs: An analysis of the issues for post secondary education. San Francisco, CA: Jossey-Bass.

Cross, K. P. (1979). Adult learners: Characteristics, needs and interests. In R. E. Peterson (Ed.), Lifelong learning in America: An overview of current practices, available resources and future prospects. San Francisco, CA: Jossey-Bass.

Cross, K. P. (1981). Adults as learners: Increasing participation and facilitating learning. San Francisco, CA: Jossey-Bass.

Darkenwald, G. G. (1980). Continuing education and the hard-to-reach adult. In G. G. Darkenwald & G. A. Larsons (Eds.), Reaching hard-to-reach adults. San Francisco, CA: Jossey-Bass.

Dickerson, G., & Rusnell, D. (1971). A content analysis of adult education. Adult Education, 21(3), 177-185.

Goodrow, B. A. (1975). Learning factors in reducing participation in older adult learning opportunities. The Gerontologist, 15(3), 418-429.

Dillman, D. (1978). Mail and telephone surveys: The total design method. New York: John Wiley and Sons.

Houle, C. O. (1961). The inquiring mind. Madison, WI: University of Wisconsin Press.

Johnstone, J., & Riviera, R. (1965). Volunteers for learning: A study of the educational pursuits of American adults. Chicago, IL: Aldine.

Larson, G. A. (1980). Overcoming barriers to communication. In G. G. Darkenwald & G. A. Larsons (Eds.), Reaching hard-to-reach adults (pp. 27-38). San Francisco, CA: Jossey-Bass.

Lindamood, R. L. (1975). A comparison of participants and non-participants in the adult religious education program of the middle/upper middle class Lutheran church. Unpublished doctoral dissertation, The Ohio State University, Columbus.

London, J., Werkert, R., & Haggerstrom, W. C. (1963). Adult education and social class (Cooperative Research Project 1017). Berkeley, CA: Research Center, University of California.

Mezirow, J. (1971). Toward a theory of practice. Adult Education, 28(3), 135-147.

Porter, L. W., & Lawler, E. E. (1968). Managerial attitudes and performance. Homewood, IL: Richard D. Irwin

Prawl, W., Medlin, R., & Gross, J. (1984). Adult and continuing education through the Cooperative Extension Service. Columbia, MO: Extension Division, University of Missouri-Columbia.

Rossano, E. (1985). Factors associated with the turnover intentions of Ohio Cooperative Extension county agents. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Rubenson, K. (1977). Participation in recurrent education: A research review. Paris: Center for Educational Research and Innovation, Organization for Economic Cooperation and Development.

Scanlon, C. L. (1986). Identifying and addressing deterrents to participation in adult education. Unpublished manuscript.

Spencer, B. (1980). Overcoming the age bias in continuing education. In G. G. Darkenwald & G. A. Larsons (Eds.), Reaching hard-to-reach adults (pp. 71-78, 82). San Francisco, CA: Jossey-Bass.

Teichert, R. H. (1969). Identification of characteristics that differentiate participants in university adult evening school programs from non-participants. Unpublished doctoral dissertation, University of Nebraska, Omaha.

Van Tilburg, E. (1988). A comparison of advantaged and disadvantaged populations of adult learners using the expectancy-valency paradigm of motivation and adult learner participation, Final report. Unpublished staff study, Ohio Agricultural Research and Development Center, The Ohio State University, Columbus.

Vroom, V. H. (1964). Work and motivation. New York: John Wiley & Sons.

Table 1

Factor Analysis Summary for the Decision to Participate (Advantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Information	5.83	.86	4	10.94	39.1
Learning	5.32	.91	3	2.62	9.4
Teacher	5.30	.89	5	1.82	6.5
Social	5.48	.87	3	1.64	5.9
Arrangements	5.58	1.08	4	1.42	5.1
					66.0

[a] Factor loadings < .50 were omitted.
[b] Items with NA > 25% were removed from analysis.
(Rotated factor matrix varimax converged in 36 iterations)

Table 2

Factor Analysis Summary for the Decision to Participate (Disadvantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Instruction	5.88	.83	6	8.28	29.6
Communication	5.32	.95	3	3.20	11.4
Commitment	5.29	.89	5	2.44	8.7
Information	5.67	.88	3	2.23	8.0
Arrangements	5.76	1.00	3	1.68	6.0
					63.7

[a] Factor loadings < .50 were omitted.
[b] Items with NA > 25% were removed from analysis.
(Rotated factor matrix varimax converged in 26 iterations)

Table 3

Factor Analysis Summary for the Decision to Persist (Advantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Information	6.17	.85	5	2.28	7.1
Teacher	5.86	1.06	5	3.22	10.1
Commitment	5.54	1.11	12	14.56	45.5
Arrangements	5.44	1.11	3	1.31	4.1
Social	4.56	1.27	2	1.68	5.2
					71.6

[a] Factor loadings < .50 were omitted.

[b] Items with NA > 25% were removed from analysis.

(Rotated factor matrix varimax converged in 9 iterations)

Table 4

Factor Analysis Summary for the Decision to Persist (Disadvantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Teacher/ Instruction	5.76	.96	6	7.61	23.8
Information	6.02	.68	4	3.75	11.7
Arrangements	5.72	.98	2	3.19	10.0
Stimulation	5.66	.75	5	2.46	7.7
Internal Commitment	5.68	.85	3	1.93	6.0
					59.2

[a] Factor loadings < .50 were omitted.

[b] Items with NA > 25% were removed from analysis.
(Rotated factor matrix varimax converged in 72 iterations)

Table 5

Factor Analysis Summary of Outcomes (Advantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Positive	3.05	.31	10	8.83	46.5
Negative	1.84	.47	8	1.62	8.5
					55.0

[a]Factor loadings < .50 were omitted.

[b]Items with NA > 25% were removed from analysis.

(Rotated factor matrix varimax converged in 3 iterations)

Table 6

Factor Analysis Summary of Outcomes (Disadvantaged)

Factor[a]	$\overline{X}$	sd	# of Items[b]	Eigen Value	% of Variance
Negative Experience	1.83	.36	6	5.12	26.9
Self-improvement	3.01	.30	5	2.68	14.1
Positive Information	3.30	.41	3	1.50	7.9
Negative Social	1.83	.48	2	1.28	6.7
Negative Information	2.06	.60	2	1.23	6.5
					62.1

[a]Factor loadings < .50 were omitted.

[b]Items with NA > 25% were removed from analysis.

(Rotated factor matrix varimax converged in 11 iterations)

Table 7

Regression of Satisfaction with Participation on Selected Variables (Advantaged Group) (stepwise entry)

Independent Variables Entered Stepwise In Equation	Multiple R	R^2	R^2 Increment	b	F
Positive Outcomes	.4539	.2060	.2060	.158	23.61*
Decision to Persist - Information Factor	.4984	.2484	.0424	.056	14.88*
(constant)				(-2.963)	

*p < .05

$Y' = -2.963 + .158X_1 + .056X_2$

Table 8

Regression of Satisfaction with Participation on Selected Variables (Disadvantaged Group) (stepwise entry)

Independent Variables Entered Stepwise In Equation	Multiple R	R^2	R^2 Increment	b	F
Decision to Participate - Communication	.4161	.1732	.1732	.074	15.92*
Negative Experience Outcomes	.4946	.2446	.0714	-.137	12.14*
(constant)				(3.971)	

*p < .05

$Y' = 3.971 + .074X_1 - .137X_2$

SESSION A

May 18, 1989

FINANCIAL MANAGEMENT TRAINING NEEDS OF EXTENSION HOME ECONOMISTS

by

CATHY FAULCON BOWEN AND JOAN GRITZMACHER

THE ROLE OF GRADUATE EDUCATION ON CONTINUING PROFESSIONAL DEVELOPMENT OF PENNSYLVANIA STAFF

by

DEBRA A. GREGORY AND JOY CANTRELL

FOOD AND NUTRITION EVALUATION PRACTICES OF OHIO COOPERATIVE EXTENSION HOME ECONOMISTS

by

MARJORIE L. MCCLISH AND JOAN GRITZMACHER

FINANCIAL MANAGEMENT TRAINING NEEDS OF EXTENSION HOME ECONOMISTS

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INTRODUCTION

Families are believed to be the most economical and effective means of rearing children and caring for the elderly. Helping families manage their financial resources, develop decision-making and management skills and acquire self-confidence are critical to the Nation's future (United States Department of Agriculture, 1988b). Managing monetary resources is one aspect of daily living that affects essentially all lives. It is nearly always a concern for individuals and families at every income level. Extension educators recognized this concern as early as the 1950s (Kearl & Copeland, 1959) and continue to place emphasis on this perennial problem area for their clients in the 1980s.

Family economic well-being is one of eight initiatives guiding extension programming in the U.S. One crucial issue associated with this initiative is family financial instability (United States Department of Agriculture, 1988a). Changing employment opportunities, fluctuating income, decreasing purchasing power and limited resource management skills are several factors affecting the financial stability of American families. Extension educators in several states are helping families and individuals cope with these factors and operate more efficiently by providing a variety of programs on managing money (United States Department of Agriculture, 1988b).

Several researchers (Lown, 1985; McKenna & Nickols, 1986; Ulrichson & Hira, 1985) have pointed out that extension educators are in a good position to provide financial management information to individuals and families who are not reached by private businesses or public education systems. Other researchers, however, have documented the fact that financial management is an area in which extension home economists have often lacked expertise and could benefit from further education (Lown, 1985; Stephenson, 1986; Ussery, 1964). For example, Lown identified a need for a financial counseling training program after conducting a needs assessment of Utah home economics extension agents. Stephenson found that Maryland's home economics agents had serious deficiencies in the area of "financial management." Ussery found that Tennessee home economics agents had the greatest need in "managerial ability," in the "use of time and money," "family finances," and "meeting the needs of today's youth."

A report of selected home economics programs indicated that budget counseling programs were established in 13 Ohio counties (Ohio Cooperative Extension Service, 1987). According to the report, these 13 programs were making a difference in the financial management practices of participants. This report raised two questions. Why were the remaining 75 counties not cited as having budget counseling programs? Are areas of financial management other than budgeting being presented by home economics agents in Ohio?

If extension educators are to effectively assist families and individuals in making sound decisions regarding their personal finances, they must possess the needed experiences and education. Literature reviewed for this study suggested that extension professionals may not have the competencies needed to conduct educational programs in financial management (Lown, 1985; Stephenson, 1986; Ussery, 1964). Training or inservice education is one way that extension educators can update their knowledge and competency in this programming area. Prior to initiating inservice training, however, an assessment of current knowledge and expertise is appropriate and necessary if training is to be effective.

PURPOSE AND OBJECTIVES

The primary purpose of this study was to determine areas of financial management in which Ohio county extension home economists need additional training. Seven areas of financial management were investigated: budgeting, consumer financial services, consumer credit, risk management, retirement, estate planning, and investments. A second purpose was to determine the agents' perceptions regarding (1) the importance of the seven areas of financial management to their current job responsibilities, (2) their knowledge of the areas, and (3) their ability to teach competencies in the areas. Specific objectives were to:

1. Describe the agents on selected personal characteristics, including their previous training in financial management.
2. Describe the agents' programming efforts in financial management during the previous calendar year.
3. Describe agents' perceptions about the importance of the areas of financial management, their knowledge of the seven areas, and their ability to teach competencies in the areas.
4. Rank the seven financial management areas according to the amount of additional training the agents need in each area.

PROCEDURES

The descriptive survey research method was used in the study. The Borich Model of Needs Assessment was used because it provided a relatively objective and systematic way to determine inservice education needs. The model guided the instrument development, and the data collection, analysis, and interpretation. Borich (1980) defined a training need as a discrepancy between an educational goal and the trainee's performance in relation to the goal. Therefore, training needs are discrepancies or gaps between "what is " and "what should be." Discrepancy scores are used to identify training priorities. Five steps in the Model are: (1) list competencies based on program objectives, (2) survey trainees, (3) rank competencies according to discrepancy scores, (4) compare high priority competencies with training program content, and (5) revise program or revise competencies.

In adapting the Borich Model to this study, financial management competencies for each of the seven areas of financial management were listed along with three scales to assess the agents' perceptions (Example 1 below). Respondents rated their perceptions of competencies on the following scales: 1) the importance of the competencies to their current job responsibilities, 2) their knowledge of the competencies, and 3) their ability to teach the competencies. Each scale ranged from 1 (low) to 5 (highest) and is further defined in Example 1.

Example 1

	Importance of Item	Knowledge of Item	Ability to Teach Item
	Low High	Low High	Low High
RISK MANAGEMENT			
1. Understanding basic principles of insurance such as determining what is an insurable risk and ways to manage risks.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2. Understanding health insurance and its components.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3. Understanding automobile insurance and its components.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Importance of Item	Knowledge of Item	Ability to Teach Item
1 = not important	1 = no knowledge	1 = not well
2 = of little importance	2 = little knowledge	2 = slightly
3 = moderately important	3 = average knowledge	3 = moderately well
4 = important	4 = above average	4 = well
5 = very important	5 = highly knowledgeable	5 = very well

Knowledge discrepancy scores were determined by subtracting agents' perceived knowledge of a competency from their perceived importance of the competency. This difference was then multiplied by the mean perceived importance score for ALL AGENTS responding to that competency. The resulting figure was the discrepancy or gap between "the desired " and "the actual." The higher the discrepancy score, the larger the gap between the actual condition and desired condition. (see Table 1). A discrepancy score for a competency was determined by summing individual respondents' discrepancy scores and dividing that total by the number of respondents.

Table 1

Calculation of Knowledge Discrepancy Scores

Competency Item 1: Understanding health insurance and its basic components.

Respondents	Importance of Item	Knowledge of Item	Ability to Teach Item
	Low High	Low High	Low High
1	1 2 3 4 [✓ 5]	1 2 [✓ 3] 4 5	1 2 3 4 5
2	1 2 3 [✓ 4] 5	1 2 3 4 5	1 2 3 4 5
3	1 2 3 4 [✓ 5]	1 2 3 4 5	1 2 3 4 5

Importance mean for competency 1 = 4.66 [5+4+5/3=4.66]

5	Perceived importance rating for respondent 1
-3	Perceived knowledge rating for respondent 1
2	
x4.66	Importance mean for competency 1
9.32	Knowledge discrepancy score for respondent 1

Discrepancy scores for each of the seven areas of financial management were determined by totaling the discrepancy scores for each competency within an area and then dividing that total by the number of items in that area.

Instrumentation

An instrument was developed by the researchers to satisfy the objectives of the study. Information from the research literature, personal finance textbooks, and the Family Financial Management Curriculum Sourcebook (United States Department of Agriculture and Purdue University, 1983) was used in developing the instrument. The Curriculum Sourcebook is the product of a special needs project funded by the United States Department of Agriculture. It was designed for use by extension agents and specialists in developing, delivering, and evaluating financial management programs.

The content of the instrument was validated by a panel of six experts who have academic or extension responsibilities in financial management. The instrument was pilot tested using extension home economists in West Virginia, Kentucky, Michigan, and Indiana. In addition, two Home Economics District Specialists and an extension evaluation specialist reviewed the instrument before data collection. Reliability estimates were computed for each of the seven areas of financial management. Cronbach's alpha reliability coefficients computed based on the pilot test data ranged from .73 to .96; coefficients based on the population data ranged from .76 to .96. Only one of the seven areas had a reliability coefficient less than .80 for the pilot test data and for data from the population.

Data Collection

A mailing list provided by Ohio's Assistant Director of Home Economics programs was used to identify the population of home economics agents. The population included 68 agents. Some agents had administrative or programming responsibilities in areas other than home economics. Data were collected by mailed questionnaire during a four week period in May and June 1988. Respondents who returned the completed questionnaire by the initial deadline were eligible to participate in a drawing for a cash prize. Berdie, Anderson, and Niebuhr (1986) stated that small incentives such as cash prizes increased the response rate to mailed surveys. Agents who did not respond by the initial deadline were telephoned and asked to return the questionnaire. Agents who could not locate the original copy of the questionnaire were mailed a second copy. The return rate was 93% (63 of 68 agents). Four agents returned the questionnaire after the close of data collection. Data from these questionnaires were not included in the analysis. No comparisons were made between the agents who responded before the close of data collection and those who did not.

Data Analysis

The Statistical Package for the Social Sciences (SPSSx) computer package was used to analyze the data. Descriptive statistics were computed to provide a profile of the agents and to describe their financial management educational needs.

RESULTS

Profile of Agents

Sixty-five percent of the agents were married. The majority of the agents were less than 50 years old (mean=39). Most had been employed by Cooperative Extension a mean of 12 years. Sixty-four percent had earned bachelor's degrees in home economics education. More diversification in degree areas studied occurred at the master's level. General home economics, family resource management, family relations, human development, and areas of education including home economics education were some of the areas in which master's degrees were earned.

Educational preparation in financial management among respondents was very limited. Only 13 agents had received previous training in financial management through formal college or university level courses. Most of the 13 agents had graduated from degree programs within the past 10 years.

Workshops and inservice training was the educational route used by most agents in receiving financial management training. Practically all agents (57) had attended one or more workshops related to financial management during the past 5 years. Most workshops had been offered by Cooperative Extension. Others were offered by professional organizations during annual meetings.

Programming Efforts in Financial Management

Most agents (87%) had conducted or were planning to conduct programs on budgeting. However, few had conducted programs or were planning to conduct programs in other areas of financial management (see Table 2). On the average, agents spent 50 hours programming in budgeting while fewer than 15 hours were spent on other areas of financial management (see Table 3).

Table 2

Areas of Financial Management in Which Agents Provided or Planned Programming

	N=63			
	Yes		No	
Area	f	%	f	%
Budgeting	55	87.3	8	12.7
Consumer Financial Services	11	17.5	52	82.5
Consumer Credit	30	47.6	33	52.5
Risk Management	3	4.8	60	95.2
Retirement	22	34.9	41	65.1
Estate Planning	13	20.6	50	79.4
Investments	12	19.0	51	81.0

Table 3

Mean Number of Hours Spent Programming in Areas of Financial Management During 1987

	N=63
Area	M
Budgeting	50.28
Consumer Financial Services	7.14
Consumer Credit	13.69
Risk Management	2.84
Retirement	6.19
Estate Planning	3.98
Investments	4.82

Agents' Perceptions of the Importance of, Knowledge of, and Ability to Teach Competency Areas

Agents were asked to rate each item's perceived importance to their job responsibilities, their perceived knowledge of the items, and their perceived ability to teach each item. Importance mean scores ranged from 3.44 to 4.25 and knowledge mean scores ranged from 2.35 to 3.79. The three areas rated highest on the importance scale were budgeting, retirement, and consumer credit. Budgeting, consumer credit, risk management and retirement were the areas receiving the highest rating on the knowledge scale. Agents' perception of their ability to teach competencies ranged from 2.05 to 3.54. Areas rated highest on ability to teach were budgeting, consumer credit, and consumer financial services. (see Table 4).

Table 4

Mean Scores and Standard Deviations for Agents' Perception of Importance, Knowledge, and Ability to Teach Competencies by Area

Area	Importance		Knowledge		Ability to Teach	
	M	SD	M	SD	M	SD
Budgeting	4.25	.42	3.79	.54	3.54	.60
Consumer Financial Services	3.60	.72	2.75	.75	2.40	.75
Consumer Credit	3.94	.56	3.06	.68	2.77	.72
Risk Management	3.84	.76	2.78	.71	2.32	.82
Retirement	3.96	.70	2.78	.82	2.32	.91
Estate Planning	3.69	.80	2.35	.84	2.05	.87
Investments	3.44	.91	2.45	.94	2.07	.93

1 (low) to 5 (high)

Training Priorities

Discrepancy scores for the areas of financial management were used to determine training priorities. The higher the discrepancy score, the higher the training priority. The three priority areas for training are estate planning, retirement and risk management (see Table 5).

Table 5

Rank Order of Financial Management Areas by Agents' Knowledge and Ability to Teach Discrepancy Scores

Area	Knowledge	Ability to Teach
Budgeting	7	7
Consumer Financial Services	6	6
Consumer Credit	5	5
Risk Management	3	3
Retirement	2	1
Estate Planning	1	2
Investments	4	4

1____________________________7
high priority low priority

CONCLUSIONS

The majority of agents participating in this study were married, had been employed by Cooperative Extension a mean of 12 years, and did not have formal training in financial management. However, most had attended one or more inservice workshops on financial management offered by Cooperative Extension during the past 5 years. Agents were spending considerably more time on budgeting than on the other six areas of financial management. Agents perceived budgeting as the area with the most importance to their job, as well as the area they were the most knowledgeable of and most capable of teaching. Agents have training needs in estate planning, retirement, and risk management.

RECOMMENDATIONS

The following recommendations are based on the findings of the study:

1. The results of this study should be made available to extension administrators, extension agents, and others who are responsible for planning and providing inservice education.
2. The study should be repeated with the original population after inservice training has been provided in the areas of estate planning, retirement, and risk management.
3. Agents might use this study as a basis for developing a survey to assess local needs in personal finances.
4. The study could be conducted in other states to determine financial management training needs of agents.
5. Studies could be conducted on the personal money management behaviors of agents before and after training.
6. This study be used as the basis for developing a computerized system of assessing agents training needs in financial management on a routine basis.

REFERENCES

Berdie, D. R. , Anderson, J. F., & Niebuhr, M. A. (1986). Questionnaires: Design and use. Metuchen, NJ: The Scarecrow Press, Inc.

Borich, G. D. (1980). A needs assessment model for conducting follow-up studies. Journal of Teacher Education, 31(3), 39-42.

Kearl, B. E. & Copeland, O. B. (Eds.) (1959). A guide to Extension programs for the future. Raleigh, NC: Extension Committee on Organization and Policy and the North Carolina State College.

Lown, J. M. (1985). Financial management information need: Help for financial problems. American Council of Consumer Interest Proceedings, 252-257.

McKenna, J. & Nickols, S. Y. (1986). Retirement planning strategies for midlife women. Journal of Home Economics, 78(4), 34-37.

Ohio Cooperative Extension Service (1987). Report: Impacts of selected extension home economics programs 1986-87.

Stephenson, M. J. (1986). Extension's role in the financial service industry. A Model project (Summary). American Council of Consumer Interests Proceedings, 32nd Conference, 219.

Ulrichson, A. & Hira, T. K. (1985). The impact of financial problems on family relationships. Family Perspective, 19(3), 177-187.

United States Department of Agriculture (1988a). Cooperative Extension system national initiatives. Family and economic well-being. Washington, DC.

United States Department of Agriculture (1988b). Family and economic well-being: A cooperative Extension System Response. Washington, DC.

United States Department of Agriculture & Purdue University (1983). Family financial management: Curriculum sourcebook. Purdue University, West Lafayette, IN.

Ussery, M. (1964). An analysis of the educational needs of county extension agents Tennessee. Dissertation Abstracts International, 24, 3726.

FINANCIAL MANAGEMENT TRAINING NEEDS OF EXTENSION HOME ECONOMISTS

Cathy Faulcon Bowen
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N. L. McCaslin
Discussant

It was a pleasure to have the opportunity to review this research on the financial management training needs of extension home economists. Training programs often do not have this type of information to use in making decisions and setting priorities. In fact, all too often decisions are made on the basis of personal preferences and biases without checking with those who are to be trained.

The authors are to be complimented on their statement of the problem and purpose and objectives. It was apparent to this discussant that they had reviewed the literature carefully and established what they wanted this research to accomplish.

The procedure followed by the researchers was based on an accepted approach using a discrepancy model of needs assessment. In reviewing Example 1, this discussant was somewhat perplexed. It appears that the competency statements tended to ask the respondent to judge "double-barreled" items (e.g., understanding health insurance and its components). Use of a statement such as "understanding the components of health insurance" could have eliminated this problem.

Another suggestion to the researchers would be to clarify how the validity of the instrument was determined. The use of a panel of six experts may well be appropriate. However, this discussant was left wondering what they did and how they did it. The reliability procedures, on the other hand were explained adequately.

The researchers are to be complimented on the high level of response they received. However, a question did arise regarding why nonrespondents were not contacted or, at a minimum, why the responses of the late respondents were not compared with early respondents. Also, it would have been helpful if the researchers had indicated the types of descriptive statistics they used in the data analysis section of the paper. Readers are able to determine the types of statistics (e.g., chi-square, frequencies, percentages, means, standard deviations) after reading the results section.

It was interesting to note the training priorities identified by this research. The data presented in Table 5 indicate that the areas of priority are practically in inverse order to their appearance on the table (and probably on the instrument). This raises a question regarding the influence of the order of the areas on the instrument and their subsequent priorities. Would the same priorities have occurred if their order had been altered on the instrument. This question cannot be answered by the research presented here. However, it may be an interesting area for additional research.

If the raison d'etre of needs assessment is to help improve how inservice training is planned and operated, why do the conclusions and recommendations not address these topics. Certainly the researchers have much valuable information for improving the effectiveness and efficiency of such programs.

This paper makes a positive contribution to research in extension education. The authors are encouraged to continue building upon their work on needs assessment.

THE ROLE OF GRADUATE EDUCATION ON CONTINUING PROFESSIONAL DEVELOPMENT OF PENNSYLVANIA EXTENSION STAFF

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Discussant

The rate of growth in the knowledge and skills needed by extension personnel is so rapid that they run the risk of becoming out-of-date and occupationally obsolete soon after completing their baccalaureate degrees. Graduate education represents one avenue that extension personnel have of continuing their educational programs. In considering individuals for promotion the amount of graduate education is one factor that is often reviewed. Therefore, this examination of the role of graduate education on continuing professional development of Pennsylvania extension staff is quite timely and provides a baseline of important information for use in making planning and policy decisions.

The researchers are to be commended for obtaining a 92 percent response rate for this investigation. However, it was interesting to note that the paper did not report any attempts to compare these responses with those of the nonrespondents or to compare early respondents with those of late respondents.

Another concern about the study is the lack of information regarding the validity and reliability of the instrument. Information was also missing regarding any attempt to pilot test the instrumentation.

The findings that 36 percent of the extension staff do not indicate graduate education as a part of their professional development plans and another 21 percent are uncertain as to their future involvement in graduate courses is of great concern. It would be interesting to know why these staff are not more positive about graduate education. Are the graduate programs being viewed as ineffective? Do staff see themselves changing careers and not interested in graduate extension education? Reasons for the apparent lack of interest in graduate education needs further research.

The last section of the paper is entitled "conclusions and recommendations." Yet, the sections includes two sets of implications. The researchers need to review this section and determine what they want to include. However, they are to be commended for developing separate implications for two groups: the Cooperative Extension Organization and the providers of graduate education.

It would be interesting in further research to provide these findings to groups of county and regional extension staff. These groups might provide interesting interpretations about why extension staff perceive graduate education as reported by this study.

This study represents an important contribution to the knowledge base of extension education. The researchers should be encouraged to continue their work on this topic.

FOOD AND NUTRITION EVALUATION PRACTICES OF OHIO EXTENSION HOME ECONOMISTS

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Discussant

This research of the evaluation practices used by extension home economists was quite interesting. With the current emphasis on impact evaluation and the need for determining the accountability of programs, this study provided needed information for extension staff who are designing evaluation activities. Certainly this study should help move evaluation efforts from counting the number of meetings and participants and participants' satisfaction with programs to more useful indices of impact.

Although the paper has an extensive reference list (23 documents) there were no specific citations presented in the paper. Therefore, the authors are encouraged to include specific citations in future revisions of this paper. Additionally, the figure on Bennett's levels of evidence is not titled nor referred to in the paper. Any information that is considered important enough to include as a figure should be indicated in the paper.

The researchers reported pilot testing the instrument and the procedures used in establishing the content validity of the instrument. However, no mention was made about the reliability of the instrument. Information on the reliability of the instrument would increase the readers' confidence in the study. Of the 37 who received the questionnaires, 30 returned them for a response rate of 81 percent. However, the study failed to discuss if nonrespondents differed from the respondents.

The final section of this paper includes information under the major heading entitled, "conclusions and recommendations." In reviewing this section, it was noted that the authors also included implications. However, upon review, it was difficult to distinguish between the conclusions and implications. The authors may wish to reconsider whether or not they wish to include both of these sub-headings. Another suggestion for the authors would be to consider developing recommendations for how extension home economists might enhance their evaluations by collecting information at the higher level of Bennett's hierarchy.

The research reported in this paper provides interesting information for improving the quality of evaluating extension education programs. The researchers are to be encouraged to continue their work on this important topic.

THE ROLE OF GRADUATE EDUCATION ON CONTINUING PROFESSIONAL DEVELOPMENT OF PENNSYLVANIA EXTENSION STAFF

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INTRODUCTION

Professional Cooperative Extension staff are being challenged with keeping up with state of the art technological advances, complex problems of clientele, and a much more educated and informed public. Knutson(1985) indicates that professional obsolescence has led to the view of county agents as facilitators of education (meeting organizers) rather than educators.

The technical knowledge and process skills derived from graduate study add to staff capacity to meet changing clientele needs and increase professional stature among colleagues and clientele (National Extension Policy Guidelines for Staff Development, 1987). Graduate study has been advocated, and supported in many states, as a major component of professional development for Extension staff.

Professional development is the term used to denote commitment of individuals to personal growth and development related to their job or career. This development contributes to the broader continuum of lifelong education as depicted by Knapper and Cropley (1985). They support that this total education development continuum ranges from non-institutionalized educational influences to formal, institutionalized educational influences that mold a given individual. Graduate education, presented as formal institutionalized learning, represents one approach to professional development to help individuals increase their abilities and their potential in their professional field.

How interested and committed are county-based Extension staff in pursuing their professional development via graduate study? To what extent is graduate education and advanced formal education a part of their plans to upgrade themselves? These are the questions that a recent study of Pennsylvania Extension staff addressed. Planning for effective and comprehensive staff development opportunities is a focus for Penn State

Cooperative Extension within the next four years. A first step in this process was to develop a professional development profile of the current staff as a base for further planning. This paper presents the study objectives and selected findings regarding graduate education as a component of that professional profile.

PURPOSE AND OBJECTIVES

The overall purpose of this descriptive study was to develop a professional development profile of county and regionally based extension staff as related to their current achievement of graduate level education and plans to pursue further graduate education. Speciific objectives of the study were to determine:

1) the graduate education level obtained by professionals according to age, gender, region, position, job assignment, and length of employment within Penn State Extension;

2) current enrollment or immediate plans for pursuit of graduate education by professionals and the relationship to the job characteristics of tenure, position title, and job assignment;

3) graduate study programs and courses of interest; and

4) the factors that might prevent or influence professional development through graduate education.

PROCEDURES OF THE STUDY

Population

The population of this study was the 287 Penn State Cooperative Extension county and regionally based employees, as of July 1, 1987. Of these, 274 were county-based employees while 13 were located in regional positions. Because the study was establishing baseline demographic data, the entire population was included.

Instrumentation and Data Analysis

A mailed questionnaire was used for data collection in this study. The survey instrument included demographic responses, short answer questions, and responses on a Likert-type scale relating to the variables of the study. Descriptive statistics were used to present analysis of data. The Chi-square test of independence was used to examine relationships between selected variables under study. No inferential statistical analyses were conducted since the entire population was studied.

RESULTS / FINDINGS

Respondents

There were 263 usable responses for a 92 percent return rate. Of the respondents, 54 precent were male and 78 percent were between the ages of 30 and 59, with 32 percent between ages 30-39. The largest group (22 percent) of respondents have been employed for six to ten years while 20 percent have been employed for 25 of more years. Educationally, approximately one-half (49) percent of the professionals do not currently hold a Master's degree compared to the remaining 51 percent who do.

Variables Related to Current Level of Graduate Education

Relationship of current education level according to age, gender, region, position, job assignment, and tenure were explored using Chi-square analyses. Variables that were related to current level of graduate education were: age (X^2=41.3, p.<.0001); gender (X^2=12.69, p.<.01); position (X^2=103.0, p.<.0001); job assignment ($X^2$29.5, p.<.0001); and tenure (X^2=46.6. p.<.0001). Using the Cramer's V as an indicator for strength, a very low relationship existed between each of these variables and educational level.

Findings reveal that younger respondents, less than 40 years of age without an advanced degree, accounted for 32 percent of the employees. Among the 45 employees, age 20-29, only 7 had a Master's degree (Table 1). Additionally, 32 percent of the males hold an advanced degree compared to 18 percent of the females (Table 2).

Table 1 Relationship Between Respondents' Age and Educational Level (n=260)

	Age in Years											
	20-29		30-39		40-49		50-59		60 & above		Total	
Educational Level	n	%	n	%	n	%	n	%	n	%	n	%
Less than Masters' Degree	38	14.6	44	27.0	20	7.6	21	8.1	5	1.9	128	49.2
Masters' Degree and beyond	7	2.7	39	15.0	39	15.0	40	15.3	7	2.7	132	50.8
Total	45	17.3	83	31.9	59	22.6	61	23.4	12	4.6	260	100.0

x^2=41.7 p<.0001 Cramers' V=.23

Table 2 Relationship Between Respondents' Sex and Educational Level (n=260)

Educational Level	Male n	Male %	Female n	Female %	Total n	Total %
Bachelors' Degree and less	25	9.6	34	13.1	59	22.7
Grad. Credits beyond Bachelors'	31	11.9	39	15.0	70	26.9
Masters' Degree	53	20.4	24	9.2	77	29.6
Grad Credits beyond Masters'	30	11.5	24	9.2	54	20.8
Total	139	53.5	121	46.5	260	100.0

x2=12.69 p=.0054 Cramers' V=.22

Professionals with agricultural job assisgnments hold 25 percent of the Masters' degrees, compared to 14 percent held by family living professionals and 8 percent held by 4-H professionals (Table 3). When educational level is analyzed by job assignment and gender (X^2=18.9 p.<.01), the findings indicate that 79 percent of the female 4-H professionals have less than a Master's degree (Table 3B).

Table 3 Relationship Between Respondents' Primary Job Assignment Area and Educational Level (n=202)

	Primary Job Assignment *							
	Agriculture		Family Living		4-H		Total	
Educational Level	n	%	n	%	n	%	n	%
Bachelors' Degree and less	16	7.9	9	4.5	22	10.9	47	23.3
Grad. Credits beyond Bachelors'	22	10.9	18	8.9	18	8.9	58	28.7
Masters' Degree	37	18.3	9	4.5	11	5.4	57	28.2
Grad. Credits beyond Masters'	14	6.9	20	9.9	6	3.0	40	19.8
Total	89	44.1	56	27.7	57	28.2	202	100

x2=29.50 p<.0001 Cramers' V=.27

*Primary job assignment area was determined by individuals having 51 or more percent of their time devoted to an area.

Table 3A Relationship Between Male Respondents' Job Assignment and Educational Level

	Job Assignment							
	Agriculture		Family Living		4-H		Total	
Educational Level	n	%	n	%	n	%	n	%
Less than Masters' Degree	35	33.9	-	-	10	9.7	45	43.6
Masters' Degree and beyond	47	45.6	-	-	9	8.7	58	56.4
Total	83	79.6	-	-	19	18.4	103	100.0

x2 =11.79 p=.0667 Cramers' V=.23

Table 3B Relationship Between Female Respondents' Job Assignment and Educational Level

	Job Assignment							
	Agriculture		Family Living		4-H		Total	
Educational Level	n	%	n	%	n	%	n	%
Less than Masters' Degree	3	3.0	27	27.5	30	30.6	60	61.2
Masters' Degree and above	4	4.0	26	26.5	8	8.1	38	38.8
Total	7	7.1	53	54.1	38	38.8	98	100.0

x2 =18.90 p=.0043 Cramers' V=.31

Position title and tenure are relevant variables in whether graduate education has been pursued (Table 4 & 5). Of respondents with Master's degrees, 34 percent have been employed 11 or more years compared to only 17 percent of respondents with 10 years or less employment. Likewise, 32 percent of the respondents worked for less than 10 years and have not obtained an advanced degree. The relationship between advanced graduate education and position title could be explained and expected due to the promotion system. At the extension agent, senior agent, and regional program leader positions, respondents with a Master's degree represent 35 percent of the respondents. It is at these levels that a

Master's degree is recommended for promotion. Likewise, at the opposite end of the professional ranks, 35 percent of the respondents at the program assistant, assistant and associate agent levels do not have a Master's degree.

Table 4 Relationship Between Number of Years Tenure with Penn State Cooperative Extension and Educational Level (n=261)

	Years Tenure													
	Less than 3 yrs.		3-5 yrs.		6-10 yrs.		11-15 yrs.		16-24 yrs.		25 & above		Total	
Educational Level	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Less than Master's Degree	32	12.2	16	6.1	35	13.4	13	5.0	9	3.4	23	8.8	128	49
Masters' Degree and beyond	14	5.4	8	3.1	22	8.4	20	7.6	38	14.5	31	11.9	133	51
Total	46	17.6	24	9.2	57	21.8	33	12.6	47	18.0	54	20.6	261	100

x2=46.60 p<.0001 Cramers' V=0.24

Table 5. Relationship Between Respondents' Educational Level and Position Title.(n=261)

	Educational Level					
	Less than a Masters' Degree		Masters' Degree and above		Total	
Position Title	n	%	n	%	n	%
Program Assistant	15	5.7	1	.4	16	6.1
Assistant Agent	38	14.5	14	5.4	52	19.8
Associate Agent	38	14.5	26	9.8	64	24.3
Extension Agent	22	8.4	45	17.1	67	25.5
Senior Agent	7	2.7	34	12.9	41	15.6
Regional Program Leader	-	-	10	3.8	10	3.8
Other	9	3.5	4	1.6	13	4.9
Total	129	49.0	134	51.0	261	100.0

x2 =103.00 p<.0001 Cramers' V=0.36

Graduate Education as Future Professional Development

Two objectives are addressed in this section. The first relates to the current enrollment and immediate plans of Extension professionals to become involved in graduate education. Relationships between these interests and educational level and job assignment were analyzed to develop a more comprehensive staff profile. The second objective addresses the current subject area and course interests of Extension professionals.

Findings indicate that 43 percent of the respondents plan to pursue graduate education opportunities in the future. Of these respondents, 25 percent are currently enrolled in a graduate degree program, 46 percent are planning to pursue a graduate degree, while 14 percent recently completed degrees. Thirty-six percent of the staff indicate that graduate education is not a part of their professional development plans. The remaining 21 percent are uncertain as to their future involvement in graduate courses. Additionally, 40 percent of the respondents have never taken a graduate level course or it had been longer than seven years since they had taken a graduate course for professional development.

Educational level and job assignment were significantly related to future plans to pursue graduate education. Most of the respondents that currently did not hold a Master's degree planned to pursue graduate education. The relationship between these two variables was significant (X^2=30.32, p.<.000). Frequency of responses by male and female professionals by educational level indicated a greater intention on the part of females than males to pursue graduate education. The significant relationship between job assignment and future plans (X^2=21.54, p.<.001) also revealed further information toward future professional development interests of Extension professionals. The professionals most likely to pursue graduate education are those with 4-H job assignments.

Respondents were asked to indicate up to three major areas of interest for graduate study. Subject areas of most interest were in the areas of agriculture (40%), administration (40%), extension education (28%), family living (28%), and communication (25%). Seventy-four respondents were currently enrolled or had plans to enroll in specific degree programs. Twenty-one individuals, or 28 percent, were in extension education and 17, or 22 percent, specified business or public administration. Interest in specific graduate level extension education courses offered by Penn State's Department of Agriculture and Extension Education was assessed. The two most prominent courses of interest were administration (79, or 64 percent) and the independent study course (73, or 62 percent).

Prohibiting and Influencing Factors in the Pursuit of Graduate Education

The study assessed factors that prohibit or influence staff participation in graduate education opportunities. 'Lack of personal time' and 'distance to course location' were the two highest rated (x=4.0 on 5-point scale) prohibiting factorse that influence respondents' participation in graduate classes. 'Professional need to be current in the field' (x=4.0) and'personal goal satisfaction' (x=3.8) had the highest mean ratings as influencing factors in pursuing graduate courses. Personal considerations and course content are the most important factors used by respondents in selecting a degree program in which to enroll.

CONCLUSIONS AND / OR RECOMMENDATIONS

There are two sets of implications that result from this study. One set is directed at the Cooperative Extension organization whose major resource is its human capital. The second set is directed at providers of graduate education.

The Cooperative Extension Organization

The requirement and attainment of graduate degrees should not be viewed as the only solution to staff development problems since 57 percent of the current staff do not commit themselves to future professional development via graduate education opportunities. However, the group that is participating in graduate education is very self-motivated and committed to graduate education as a way of keeping relevant in their field. Respondents who are undecided about pursuing graduate education might benefit if the organization would provide career counseling as a service to employees.

The decision to pursue graduate credits is strongly based on the years of tenure in Cooperative Extension. The group employed 3-5 years recognized a high need for graduate degrees most closely based on performance in the organization including potential for career advancement, increased income, change in job assignment, and need for degree for organizational promotion. On the other end of the tenure category, a fifth of all respondents have worked 25 or more years. Since the more tenured staff had a higher educational level, once these more experienced employees retire the overall educational level for the remaining staff in the organization will lower. With the increasing level of education of clientele, this anticipated drop in staff's educational level should be of utmost concern to the Penn State Cooperative Extension's future. To resolve this problem, employees who do not have advanced degrees may decide to seek one by applying for sabbatical and educational leaves. However, if large numbers of employees do this at the same time situational problems may occur for the organization relating to finances, personnel replacement, and program continuity. Solutions might be to provide an experienced staff replacement while an agent is on educational leave, or broadening the current on-the-job educational leave opportunities that could be included in a professional development plan.

Additional research could be conducted to determine how many employees had used Penn State employee benefits to receive an advanced degree. Also, the study could be duplicated in other states and comparisions made, especially comparing plans for further graduate education in states that require a Master's degree for entry-level Extension employment.

Providers of Graduate Education

Agricultural and Extension Education departments in many institutions are the providers of graduate education to extension professionals. A hypothetical profile of a potential student that results form this study would be a female, between the ages of 20-39 with a 4-H job assignment, who has been employed by Cooperative Extension for 3-11 years, has interest in agriculture and/or administration courses, and has personal reasons of time and course location that might prevent her participation in graduate education. This hypothetical employee should be taken into consideration for future programming by these departments.

More creative alternatives to course delivery will need to be a focus for graduate program outreach. Course content that is perceived as assisting professionals to be current in the field may need to be reassessed. Specifically, identifying target audiences and addressing their needs in content and delivery systems needs to be part of the ongoing decision-making process if effective graduate programs are to be the expected result.

REFERENCES

Knutson, R. (1985). Public policy and the changing structure of American agriculture: Implications for Cooperative Extension. University Park, PA: McDowell Lecture Series.

Knapper, C. K. and Cropley, A. J. (1985). Lifelong Learning and Higher Education. Dover, NH: Croom Helm.

National Extension Policy Guidelines for Staff Development. (1987). Extension Committee on Organization and Policy, Washington, D.C.: ES/USDA.

FOOD AND NUTRITION EVALUATION PRACTICES OF OHIO EXTENSION HOME ECONOMISTS

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INTRODUCTION

Demonstrating impacts, or end results, is one of the latest thrusts of social and educational program evaluation. The Cooperative Extension Service (CES) has for many years recognized the value of program evaluation. Though CES evaluations continue to be designed and used for program improvement, much emphasis is being placed upon evaluation for accountability purposes.

In the Ohio Cooperative Extension Service (OCES) program evaluation is based upon Bennett's Hierarchy of Evidence for Program Evaluation. OCES staff are trained to set overall key objectives, program objectives, and evaluations at one or more levels of the Hierarchy. The seven hierarchial levels are Inputs; Activities; People Involvement; Reactions; Change of Knowledge, Attitude, Skill, and/or Aspiration (KASA); Practice Change; and End Results.

Forty-two Ohio county home economists chose to implement a food and nutrition key objective in 1987. During the 1987 year, 24 full-time faculty years or 30% of the total Extension home economics effort was expended toward food, nutrition, and health. Because food and nutrition education requires such a large proportion of OCES time and effort and because program impacts are cited from evaluation results, the food and nutrition key objectives, program objectives, and evaluations were examined.

PURPOSE AND OBJECTIVES

The purpose in this study was to determine how Ohio county home economists evaluated 1987 key objective food and nutrition programs (a) in relation to key objectives and program objectives at levels of Bennett's Hierarchy, and (b) in terms of evaluation study design and evaluation data collection technique.

The following questions gave direction to the study:

1. According to the seven levels of Bennett's Hierarchy:
    a. At what value levels are the 1987 food and nutrition key objectives agreed upon by the county home economists and their supervisors for yearly plans of work?

   - b. Are the designated value levels appropriate for the 1987 food and nutrition key objectives?
   - c. Are 1987 food and nutrition key objectives and their corresponding program objectives congruent in terms of attaining inputs/outputs?
   - d. At what level(s) do 1987 key objective food and nutrition program evaluations measure?
   - e. Do 1987 key objective food and nutrition program evaluations evaluate at the same level as the program objectives they measure.
   - f. Do 1987 key objective food and nutrition program evaluations ask for program evidence in terms of hard or soft data?

2. What evaluation study designs are used by county home economists to evaluate 1987 key objective food and nutrition programs?
3. What evaluation data collection techniques are used by county home economists to evaluate 1987 key objective food and nutrition programs?
4. How are/were the key objective food and nutrition program evaluation results used?
5. In terms of Ohio county home economists selecting food and nutrition key objectives in 1987:
   - a. Do years of experience in the OCES relate to use of evaluation study design?
   - b. Do years of experience in the OCES relate to use of evaluation data collection technique?
   - c. What is the level of satisfaction for the evaluation study design used?
   - d. What is the level of satisfaction for the evaluation data collection technique used?
   - e. What are the concerns about evaluating food and nutrition key objective programming?

PROCEDURES

Data for this descriptive study were collected using 1987 OCES plans of work, evaluation instruments or descriptions, and a questionnaire developed by the researcher. Faculty and doctoral students associated with OCES and The Ohio State University determined content validity of the instrument. A pilot study was performed with five randomly selected Extension home economists in the population, and appropriate revisions were made to the questionnaire. The questionnaire was sent to a sample of 37 Ohio Extension home economists who implemented food and nutrition key objectives in 1987. By the deadline, 30 respondents returned questionnaires and evaluation data on a total of 52 programs. The mean number of years respondents had been employed by the OCES was 12.4 years. Data analysis consisted of recording key objectives and evaluations to appropriate levels of Bennett's Hierarchy, and recording responses to questionnaire items.

RESULTS

The results are sequenced under the five research questions:

According to the seven levels of Bennett's Hierarchy:

a. At what value levels are the 1987 food and nutrition key objectives agreed upon by the county home economists and their supervisors for yearly plans of work?

The majority (61.5%) of 1987 food and nutrition key objectives were set at the KASA change level (change in knowledge; attitude; skill; and/or aspiration).

b. Are the designated levels appropriate for the 1987 food and nutrition key objectives?

Value levels agreed upon by county home economists and their supervisors for 1987 food and nutrition key objectives proved to be, in most cases, appropriate when key objective statements were reexamined for value level according to Bennett's Hierarchy.

c. Are 1987 food and nutrition key objectives and their corresponding program objectives congruent in terms of attaining inputs/outputs?

When key objective levels were compared with their corresponding program objective levels using Bennett's Hierarchy, 54.3% of the food and nutrition programs had at least on program objective congruent with the key objective. County home economists were most successful in setting at least one program objective at the same level as the programs' key objective when the key objective was at the KASA level.

d. At what level(s) do 1987 key objective food and nutrition program evaluations measure?

The highest number of evaluations was performed at the knowledge change level, constituting 28.3% of all evaluations performed (Table 1).

e. Do 1987 key objective food and nutrition program evaluations evaluate at the same level as the program objectives they measure?

Of all evaluated program objectives, the highest percentage of objectives, 42.2%, was set at the knowledge change level. When all programs were considered, 50.4% of the programs had congruent objectives and evaluations at one hierarchy level. Overall, county home economists evaluated more objectives correctly than incorrectly at every level of Bennett's Hierarch (Table 2). However, considerable discrepancies existed between program objectives and evaluations at certain levels. For example, at the activities level 32.7% of the objectives were not evaluated; at the reactions level 46.8% of the evaluations provided evidence for nonexistent program objectives.

f. Do 1987 key objective food and nutrition program evaluations ask for program evidence in terms of hard or soft data?

For the 1987 key objective food and nutrition programs, soft data were used as evidence for 72.6% of the evaluations.

What evaluation study designs are used by county home economists to evaluate 1987 key objective food and nutrtion programs?

The highest percentage of county home economists, 43.5%, evaluated after the program once using program participants only. The other study design used frequently by county home economists was to study program participants before and after the program.

What evaluation data collection techniques are used by county home economists to evaluate 1987 food and nutrition programs?

As evident in Table 3, the most frequently reported data collection techniques were collections of casual comments (23%) and use of questionnaire (19.7%)

How are/were the key objective food and nutrition program evaluation results used?

The highest percentage (44.2%) of use for the food and nutrition program evaluation results was accountability within the OCES, followed by program improvement and accountability outside OCES.

In terms of Ohio county home economists selecting food and nutrition key objectives in 1987:

a. Do years of experience in the OCES relate to use of evaluation study design?
b. Do years of experience in the OCES relate to use of evaluation data collection technique?

Questions relating years of experience and study design or data collection could not be analyzed because too few cases for chi-square analysis existed, even when data were collapsed.

c. What is the level of satisfaction for the evaluation study design used?

The majority (91.7%) of county home economists were satisfied with the study designs they used. Degree of satisfaction for each of the seven designs could not be determined because too few cases existed for analysis.

d. What is the level of satisfaction for the evaluation data collection technique used?

Similar to study design analysis, the degree of satisfaction for each of the 10 data collection techniques could not be analyzed due to too few cases in some cells. However, 81.7% of the county home economists were satisfied with their chosen data collection techniques.

e. What are the concerns about evaluating food and nutrition key objective programming?

Evaluation concerns of the county home economists included time and expense constraints which limited initial evaluation or further follow-up, participant willingness to aid in evaluation, and actual degree of impact made in food and nutrition behavior.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From data concerning key objective food and nutrition programs and evaluations, the researcher concludes that:

1. Ohio county home economists set the majority of food and nutrition key objectives at the KASA level.
2. County home economists and their supervisors set food and nutrition key objectives at appropriate levels according to Bennett's Hierarchy.
3. Knowledge change is the most common level at which objectives and evaluations are set for key objective food and nutrition programs.
4. County home economists evaluate at the proper level for at least one objective per key objective food and nutrition program.
5. Soft evaluation evidence is used in the majority of levels for evaluations of key objective food and nutrition programs.
6. Two common evaluation study designs for key objective food and nutrition programs are to study only program participants (a) after the program once, or (b) before and after the program.
7. The common evaluation data collection techniques for gathering evidence for key objective food and nutrition programs are collection of casual comments and use of questionnaire.
8. County home economists are satisfied with the evaluation study designs and data collection techniques they use in evaluating key objective food and nutrition programs.
9. The results from key objective food and nutrition programs are used most frequently for accountability within the OCES.
10. County home economists are concerned with the impact of key objective food and nutrition programs and with the quality and quantity of the program evaluations.

Implications

Based upon the data, the following implications for OCES educators may be considered:

1. OCES should continue to provide regular in-service evaluation training, specifically for concerns related to key objective programs.
2. A large percentage of the key objectives, program objectives, and program evaluations are set at the KASA level possibly because higher levels of impact are difficult to achieve and measure for key objective performance appraisal purposes. The OCES should

reward county home economists for setting long range, high-impact food and nutrition program objectives.

3. County home economists should be encouraged through in-service to use more scientific study designs in order to determine degree of impact attributable to program influences.
4. County home economists should be encouraged through in-service to add more formal data collection techniques in order to gather verifiable, hard data.
5. OCES should develop for county home economists a model/sample nutrition education program which includes congruent program objectives and evaluations at every level of Bennett's Hierarchy.

Recommendations

Based upon the study, recommendations for further research follow:

1. Conduct a similar study for another Extension home economics key objective area to determine evaluation practices of county home economists.
2. Conduct a second study which includes analysis of 1987 OCES reports of results in order to compare expected, actual, and claimed impacts of 1987 key objective food and nutrition programs.
3. Survey participants of an OCES evaluation in-service session and a control group of non-participant county home economists to determine knowledge, attitudes, and practices regarding food and nutrition program evaluation prior to, following, and one year after the session.

Table 1

Existence of Program Evaluation at Various Levels

Level	F	%
Inputs	0	0.0
Activities	11	9.7
People Involvement	16	14.2
Reactions	24	21.2
KASA - Knowledge	32	28.3
KASA - Attitudes	4	3.5
KASA - Skills	4	3.5
KASA - Aspirations	9	8.0
Practice Change	12	10.6
End Results	1	0.9
Total[a]	113	99.9

Note. Based on 52 evaluation instruments/descriptions.
[a]Some evaluated at more than one level per evaluation.

Table 2

Congruency Between Number of Objectives and Evaluations Within Each Level

	Congruent objectives & evaluations		Objectives without evaluations		Evaluations without objectives	
Levels	F	%	F	%	F	%
Inputs	0	0.0	0	0.0	0	0.0
Activities	31	59.6	17	32.7	4	7.7
People involvement	37	71.2	0	0.0	15	28.8
Reactions	28	53.8	0	0.0	24	46.2
KASA-knowledge	37	71.2	6	11.5	9	17.3
KASA-attitudes	47	90.4	1	1.9	4	7.7
KASA-skills	46	88.5	4	7.6	2	3.8
KASA-aspirations	42	82.7	2	3.8	8	13.5
Practice change	37	71.2	6	11.5	9	17.3
End Results	50	96.2	1	1.9	1	1.9

Note. Based on 52 programs' objectives and evaluations. Frequencies and percentages given for individual levels.

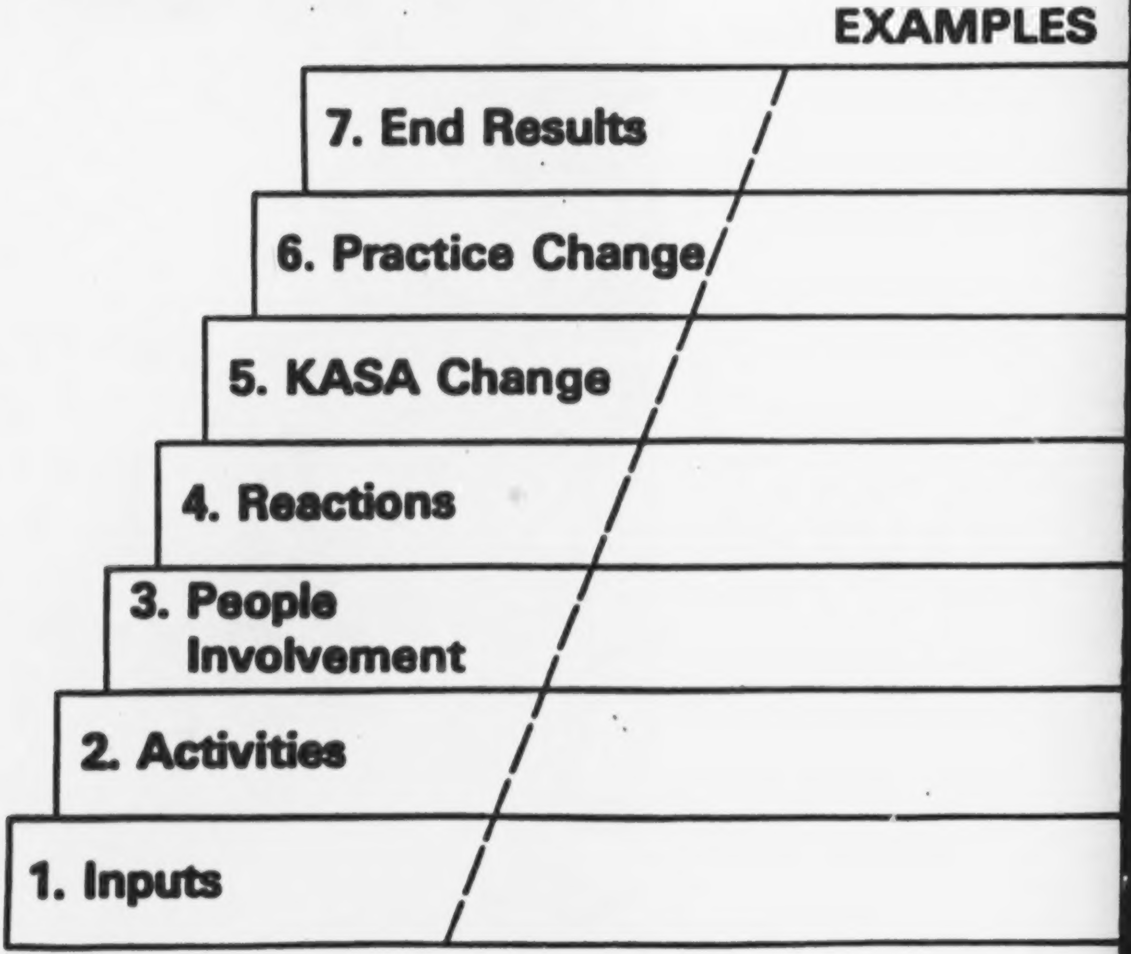
Table 3

Evaluation Data Collection Techniques

Technique	F	%
Record analysis	10	8.2
Personal interview	13	10.7
Observation	18	14.8
Collection of casual comments	28	23.0
Telephone interview	5	4.1
Questionnaire	24	19.7
Case study	0	0.0
Performance or knowledge test	17	13.9
No formal technique	3	2.5
Other data collection	4	3.3
Total[a]	122	100.2

Note. Based on 52 program evaluations.
[a] Respondents used more than one data collection technique per evaluation.

LEVELS OF EVIDENCE



EXAMPLES

7. End Results

6. Practice Change

5. KASA Change

4. Reactions

3. People Involvement

2. Activities

1. Inputs

REFERENCES

Bennett, C. F. (1977). Analyzing impacts of Extension programs. Extension Service Circular-575 (rev. ed.). Washington, D.C.: U.S. Department of Agriculture.

Bennett, C. F. (1975). Up the hierarchy. Journal of Extension, 13, 7-12.

Blount, L. (1988). Evaluation attitudes and practices of Ohio Cooperative Extension Service County Level Home Economists. Unpublished doctoral dissertation, The Ohio State University, Columbus.

Brun, J. K. (1981). Evaluation of nutrition education: A review. In J. P. Nestor & J. A. Glotzer (Eds.), Teaching nutrition: A review of programs and research (pp. 19-54). Cambridge, MA: Abt Books.

Cooperative Extension Service. (1988). Cooperative Extension System national initiatives: Focus on issues. Washington, D.C.: United States Department of Agriculture.

Franklin, J. L., & Thrasher, J. H. (1976). An introduction to program evaluation. New York: John Wiley & Sons.

Gillespie, A. H. & Yarbrough, P. (1984). A conceptual model for communicating nutrition. Journal of Nutrition Education, 16, 168-172.

Guthrie, H. A. (1978). Is education enough? Journal of Nutrition Education, 10, 57-58.

Hollingsworth, J. P. (1982). The effectiveness of an Extension short-term microwave meat cookery workshop on the knowledge and practices of participants. Unpublished master's thesis, The Ohio State University, Columbus.

Joint Committee on Standards for Educational Evaluation (1981). Standards for evaluations of educational programs, projects, and materials. New York: McGraw-Hill.

Looker, A. & Shannon, B. (1984). Threat vs. benefit appeals: Effectiveness in adult nutrition education. Journal of Nutrition Education, 16, 173-184.

McKenna, C. (1987). Cooperative Extension System: A case in point. In W. M. Rivera (Ed.), Planning adult learning: issues, practices, and directions (pp. 85-105). London: Croom Helm.

Moore, S. T. (1965). Historical study of trends in the methodology and content of adult education programs in nutrition in the United States. Unpublished masters thesis, Michigan State University, East Lansing.

Morris, L. L. & Fitz-Gibbon, C. T. (1978). *How to deal with goals and objectives*. Beverly Hills: Sage Publications.

Nestor, J. P. (1981). A conceptual framework for individual nutrition. In J. P. Nestor & J. A. Glotzer (Eds.), *Teaching nutrition: A review of programs and research* (pp. 1-16). Cambridge, MA: Abt Books.

Nestor, J. P. & Glotzer, J. A. (Eds.). (1981). *Teaching nutrition: A review of programs and research*. Cambridge, MA: Abt Books.

Ohio Cooperative Extension Service. (1985). *Key objectives*. Columbus: Ohio Cooperative Extension Service.

Ohio Cooperative Extension Service. (1987). *Report: Impacts of selected Extension home economics programs 1986-87*. Columbus: Ohio Cooperative Extension Service.

Patton, M. Q. (1986). *Utilization-focused evaluation* (2nd ed.). Beverly Hills: Sage Publications.

Rivera, W. M., Bennett, C. F., & Walker, S. M. (1983). *Designing studies of Extension program results: A resource for program leaders and specialists* (Vol. 1). The Maryland Cooperative Extension Service, The University of Maryland Department of Agricultural and Extension Education, and The United States Department of Agricultural Extension Service.

Steele, S. M. & Brack, R. E. (1973). *Evaluating the attainment of objectives in adult education: Processes, properties, problems, prospects* (Occasional papers 38). Syracuse: Syracuse University, Publications in Continuing Education & ERIC Clearinghouse on Adult Education. (ERIC Document Reproduction Service No. ED 086 889).

Summers, J. C., Miller, R. W., Carter, C. E., Young, R. E., Demsey-Foss, C. & Beaumont, L. (1981). *Program evaluation in Extension: A comprehensive study of methods, practices, and procedures* (Vol. 1). Morgantown: West Virginia University, Center for Extension and Continuing Education

Warner, P. D. & Christenson, J. A. (1984). *The Cooperative Extension Service: A national assessment*. Boulder, CO: Westview Press.

SESSION B

May 18, 1989

MARKETING OF SELECT FRESH AGRICULTURAL PRODUCTS IN CLEVELAND, OHIO METROPOLITAN AREA

by

RANDALL E. JAMES AND BARBARA H. DRAKE

THE READABILITY OF WRITTEN MASS MAILING MATERIAL PRODUCED AT THE COUNTY LEVEL OF THE ALABAMA COOPERATIVE EXTENSION SERVICE

by

EARL JOHNSON AND SATISH VERMA

GROUNDING INSTRUMENTATION IN REALITY: DEVELOPING TOOLS FOR EXTENSION EDUCATORS

by

EMMALOU VAN TILBURG AND JOE E. HEIMLICH

MARKETING OF SELECT FRESH AGRICULTURAL PRODUCTS IN THE CLEVELAND, OHIO METROPOLITAN AREA

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INTRODUCTION

In February 1987 a three year project entitled "It's Fresher From Ohio" was begun by the Ohio Cooperative Extension Service in six Northeast Ohio Counties - Cuyahoga, (Cleveland), Geauga, Lake, Summit, Medina and Lorain. The purpose of the project is to facilitate through educational efforts the marketing of fresh local agricultural products in the Cleveland Metropolitan area.

A review of the literature revealed little data relating to the marketing channels responsible for the movement of fresh agricultural products in the Cleveland area. Due to the lack of sound research data on these topics, Geauga County Extension Agents, Agriculture and Home Economics, conducted this research project to assist in directing educational efforts.

This study has given direction to the project and provided valuable information on marketing and post-harvest handling techniques which need to be taught to agricultural producers.

PURPOSE AND OBJECTIVES

The purpose of this study was to gain insight into the purchasing habits of buyers of fresh agricultural products by:

1. Determining the quantities and sources of selected agricultural products purchased during specific months in 1986 by surveyed groups of commission houses, produce purveyors, grocery stores and up-scale restaurants in the Cleveland market.

2. Determining the barriers to the marketing of local agricultural products as perceived by the surveyed buyer groups.

PROCEDURES

Three products (strawberries, broccoli and tomatoes) were selected for this study by a committee of local buyers and producers of agricultural products. These products were chosen because they were significantly different from each other in their marketing channels and were representative of a large number of commodities. Products were studied for one month of distribution in 1986 when they were readily available locally, e.g. strawberries in June; greenhouse tomatoes in May and broccoli in September.

The survey participants from four identified buyer groups were chosen at random by the following methods:

1. Commission Houses - There are 12 commission houses at the major Cleveland Food Terminal. Commission Houses buy items directly from farmers, shippers or brokers and sell to wholesale or retail buyers. They deal primarily in larger quantities and in the wholesale market. These 12 names were put on slips of paper in a container. Six or 50% of the names were randomly drawn.

2. Produce Purveyors - The Cleveland Yellow Pages were used to select the Produce Purveyors located in Cuyahoga County. The listing of 16 names were put on pieces of paper in a container and 8 or 50% were drawn at random. A produce purveyor sells and delivers products, on a wholesale basis, principally to restaurants, institutions and groceries.

3. Grocery Stores - The Cleveland Yellow Pages Phone book was used to randomly select the groceries. The listing of groceries were numbered from 1 to 370 on slips of paper and placed in a container. Thirty-seven or 10% of buyer population was drawn at random. The resulting population was made up of 145 Grocery Stores, including four chains, First National Supermarkets (Pick-n-Pay) 52 stores; Carl's/Fazio's, 43 stores; Heinen's Inc., 10 stores; Rieder's Stop-n-Shop, 5 stores. The balance was 35 independent grocery stores. (According to the data from the Cleveland Food Dealers' Association, Pick-N-Pay and Carl's/Fazio's has a combined market share of 43% of total Cleveland area grocery store sales).

4. Upscale Restaurants - A list of upscale restaurants was obtained from the restaurant critic of Northern Ohio LIVE Magazine. The critic was asked for a list of restaurants in the Cleveland area that were most likely to use fresh agricultural products. The critic submitted a list of 36 restaurants, of which 7 were chosen randomly by selecting their names from 36 slips of paper out of a container.

An original questionnaire was designed because no other suitable instrument was available. The instrument was formatted as a telephone interview guide.

The study was piloted by interviewing a restaurant buyer and produce purveyor using the instrument and proposed collection procedure. The interviewer was commissioned to flag any questions which did not seem clear to those being interviewed. Questions were easily answered by interviewees and therefore the questionnaire was not modified.

The survey was then conducted. An introductory phone call was made to explain the project, survey and procedure to each of the selected local buyers. An appointment was set with each participant to conduct the interview in approximately one week. A survey with a cover letter was then mailed to the participant to assist in preparing for the upcoming interview, at the appointed time the participants were interviewed and answers to the questions were recorded along with comments.

Simple descriptive statistics were applied to the raw date using Lotus 123. The data was presented by frequencies and percentages. Mean, median and standard deviation were calculated where appropriate. The results of this survey pertain to surveyed buyers only. It is statistically incorrect to extrapolate the data to include all Cleveland buyers.

After completing the grocery store portion of the survey, it was found large chain store buyers were the most receptive to purchasing local products. The interviewer placed another call to four supermarket buyers who purchased local products and asked why they did so and if they were receptive to increasing their purchases.

RESULTS

Commission Houses

One hundred percent of the 64,304 flats of strawberries handled by surveyed commission houses in June of 1986 were from California. One hundred percent of the 902,500 pounds of tomatoes purchased by surveyed commission houses in May of 1986 were grown in Florida. One hundred of the 18,572 cartons of broccoli purchased by surveyed commission houses in September of 1986 came from California (Table #1).

TABLE #1

ORIGIN OF SELECTED PRODUCTS AS PURCHASED BY

SURVEYED CLEVELAND COMMISSION HOUSES

PRODUCT	OHIO	CALIFORNIA	FLORIDA
Strawberries (6/86)	0	100%	0
Tomatoes (5/86)	0	0	100%
Broccoli (9/86)	0	100%	0

Mean monthly purchases of strawberries, tomatoes and broccoli per commission house, along with the estimated acreage needed per month for a producer to supply one commission house are illustrated in Table #2. Mean monthly purchases were used here but it should be noted that the actual purchases by the individual surveyed commission houses varied widely, as can be seen by the relatively large standard deviation.

TABLE #2

Mean monthly purchases, in lbs., of strawberries (June 1986), tomatoes (May 1986), and broccoli (September 1986), by surveyed Commission Houses in Cleveland, Ohio; and estimated[1] acreage needed to produce those quantities.

ITEM	MEAN MONTHLY PURCHASE[2] PER COMMISSION HOUSE	ESTIMATED ACREAGE NEEDED/ MONTH/ COMMISSION
STRAWBERRIES	115,747 LBS.	14.5 ACRES
TOMATOES	225,625 LBS.	13.3 ACRES (FIELD GROWN)
BROCCOLI	83,574 LBS.	9.8 ACRES

[1] Estimates based on discussions with specialists in the department of Horticulture at the Ohio State University. Estimated yields used were: Strawberries, 8,000 lb/acre; Tomatoes, 17,000 lb/acre; and Broccoli, 8,500 lb/acre.

[2] sd of mean monthly purchases were: Strawberries, 95,146; Tomatoes, 106,160; and Broccoli, 77,013.

Produce Purveyors

One hundred percent of the strawberries and broccoli purchased by produce purveyors were from California. Ninety-four percent of the tomatoes purchased by this group during the survey period were from Florida, six percent were from Ohio. (Table #3.)

TABLE #3

ORIGIN OF SELECTED PRODUCTS AS PURCHASED BY SURVEYED CLEVELAND PRODUCE PURVEYORS

PRODUCT	OHIO	CALIFORNIA	FLORIDA
Strawberries (6/86)	0	100%	0
Tomatoes (5/86)	6%	0	94%
Broccoli (9/86)	0	100%	0

Mean monthly purchases of strawberries, tomatoes and broccoli by the surveyed purveyors along with the estimated acres needed for a producer to supply one purveyor for one month are shown in Table #4.

TABLE #4

MEAN MONTHLY PURCHASES, IN LBS., OF STRAWBERRIES (JUNE 1986), TOMATOES (MAY 1986), AND BROCCOLI (SEPTEMBER 1986), BY SURVEYED PURVEYORS IN CLEVELAND, OHIO; AND ESTIMATED[1] ACREAGE NEEDED TO PRODUCE THOSE QUANTITIES.

ITEM	MEAN MONTHLY PURCHASE[2] PER PURVEYOR	ESTIMATED ACREAGE NEEDED/ MONTH/PURVEYOR
STRAWBERRIES	15,503 LBS.	1.9 ACRES
TOMATOES	83,915 LBS.	4.9 ACRES (FIELD GROWN)
BROCCOLI	21,209 LBS.	2.5 ACRES

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[1] Estimates based on discussion with specialists in the department of Horticulture at the Ohio State University.

Estimated yields used were: Strawberries, 8,000 lb/acre; Tomatoes, 17,000 lb/acre; and Broccoli, 8,500 lb/acre.

[2] sd of mean monthly purchases were: Strawberries, 22,459; Tomatoes, 96,505; and Broccoli, 29,216.

Grocery Stores

Buyers for grocery stores purchased more local products than any other surveyed group. While over 90% of the groceries bought only California strawberries, one grocery chain, of ten stores, bought from both Ohio and California, and one small grocery bought only Ohio strawberries.

Twenty-two percent of the tomatoes purchased by surveyed groceries were grown in Ohio and 78% were grown in Florida. All four supermarket chain buyers purchase some Ohio grown tomatoes.

A surprising 83% of the broccoli purchased by surveyed grocery stores was grown in Northeast Ohio, the balance was grown in California. All of the broccoli which was purchased from Ohio growers was purchased by three supermarket chains. These three chains bought exclusively from Ohio growers, during the survey period. (Table #5).

TABLE #5

ORIGIN OF SELECTED PRODUCTS AS PURCHASED BY SURVEYED CLEVELAND, OHIO GROCERY STORES

PRODUCT	OHIO	CALIFORNIA	FLORIDA
STRAWBERRIES(6/86)	1%	99%	0
TOMATOES (5/86)	22%	0	78%
BROCCOLI (9/86)	83%	17%	0

The mean monthly purchases of grocery stores for strawberries, tomatoes and broccoli, along with the estimated acreage needed to supply a single grocery store for one month is illustrated in Table #6.

TABLE #6

Mean monthly purchases, in lbs, of strawberries (June 1986), tomatoes (May 1986), and broccoli (September 1986), by surveyed grocery stores and supermarket chains in Cleveland, Ohio; and estimated[1] acreage needed to produce those quantities.

ITEM	MEAN MONTHLY PURCHASE[2] PER STORE	ESTIMATED ACREAGE NEEDED/ MONTH/STORE
STRAWBERRIES	2,502 LBS.	0.3 ACRES
TOMATOES	6,266 LBS.	0.4 ACRES (FIELD GROWN)
BROCCOLI	1,410 LBS.	0.2 ACRES

[1] Estimates based on discussions with specialists in the department of Horticulture at the Ohio State University. Estimated yields used were: Strawberries, 8,000 lb/acre; Tomatoes, 17,000 lb/acre; Broccoli, 8,500 lb/acre.

[2] sd of mean monthly purchases were: Strawberries, 2,007; Tomatoes, 2,800; and Broccoli, 799.

After completing the grocery store portion of the survey, it was found large chain store buyers were the most receptive to purchasing local products. The interviewer placed another call to four supermarket buyers who purchased local products and asked why they did so and if they were receptive to increasing their purchases.

These supermarket chain buyers most frequently mentioned high quality (75%), good price (75%), and freshness (50%), consumer preferring Ohio products and buyer loyalty to Ohio (50%), as reasons why they purchased local products. Other reasons were good packaging and service, better flavor and picked riper.

All of the buyers indicated they would like to increase their purchases of Ohio products. It was found two of the large chain store buyers have quality and packaging specifications for produce grown locally which they receive from local growers. Two supermarkets said they would like producers to contact them about buying their products.

Restaurants

One hundred percent of the strawberries used by upscale restaurants were grown in California. 24% of the tomatoes were grown in Ohio and 76% of the tomatoes were grown in Florida. 97% of the broccoli came from California and 3% was grown in Ohio (Table #7).

TABLE #7

ORIGIN OF SELECTED PRODUCTS AS PURCHASED BY SURVEYED CLEVELAND RESTAURANTS

PRODUCT	OHIO	CALIFORNIA	FLORIDA
Strawberries(6/86)	0	100%	0
Tomatoes(5/86)	24%	0	76%
Broccoli	3%	97%	0

Mean monthly purchase of strawberries, tomatoes and broccoli by surveyed upscale restaurants, along with the estimated acreage needed to produce that quantity is illustrated in (Table #8).

TABLE #8

MEAN MONTHLY PURCHASES, IN LBS., OF STRAWBERRIES (JUNE 1986), TOMATOES (MAY 1986), AND BROCCOLI (SEPTEMBER 1986), BY SURVEYED UPSCALE RESTAURANTS IN CLEVELAND, OHIO; AND ESTIMATED[1] ACREAGE NEEDED TO PRODUCE THOSE QUANTITIES.

ITEM	MEAN MONTHLY PURCHASE[2] PER RESTAURANT	ESTIMATED ACREAGE NEEDED/ MONTH/UPSCALE RESTAURANTS
STRAWBERRIES	209 LBS.	< 0.1 ACRE
TOMATOES	171 LBS.	< 0.1 ACRE (FIELD GROWN)
BROCCOLI	356 LBS.	< 01. ACRE

[1] Estimates based on discussions with specialists in the department of Horticulture at the Ohio State University. Estimated yields used were: Strawberries, 8,000 lb/acre; Tomatoes, 17,000 lb/acre; and Broccoli, 8,500 lb/acre.

[2] sd of mean monthly purchases were: Strawberries, 302; Tomatoes, 69; and Broccoli, 289.

Barriers to Marketing Locally

Buyers were asked to identify why more fresh Northeast Ohio agricultural products were not marketed locally. Buyers from Commission Houses identified lack of uniform packaging and grading (83%), buyer attitudes (67%) and buyers and producers don't know each other (67%) as barriers to buying locally. Produce purveyors cited lack of uniform packaging and grading (100%) and low quality (75%); Grocery stores cited lack of uniform packaging and grading (74%), low quality (77%) and buyers and producers don't know each other (53%). The restaurant buyers indicated they did not know producers (86%). (Table #9).

TABLE #9

FREQUENCY OF AGREEMENT WITH RESEARCHER IDENTIFIED BARRIERS TO PURCHASING FRESH NORTHEAST OHIO AGRICULTURAL PRODUCTS AS EXPRESSED BY SURVEYED BUYERS FOR CLEVELAND, OHIO COMMISSION HOUSES, PRODUCE PURVEYORS, GROCERY STORES, UPSCALE RESTAURANTS IN 1987.

BARRIER	n=6 Commission Houses	n=8 Produce Purveyor	n=6 Meat Wholesaler	n=145 Grocery Stores	n=7 Restaurants
	No. %	No. %	No. %	No. %	No. %
A. LOW QUALITY	3 (50%)	6 (75%)	0 (0%)	111 (77%)	0 (0%)
B. INSUFFICIENT QUANTITY	3 (50%)	4 (50%)	2 (33%)	15 (10%)	2 (28%)
C. TOO MUCH HASSLE	1 (17%)	2 (25%)	0 (0%)	2 (1%)	0 (0%)
D. TRANSPORTATION OF PRODUCT	1 (17%)	1 (12.5%)	0 (0%)	5 (9%)	1 (14%)
E. PRICE	1 (17%)	2 (25%)	1 (16%)	6 (4%)	0 (0%)
F. BUYER ATTITUDES	4 (67%)	1 (12.5%)	1 (16%)	1 (1%)	2 (28%)
G. PRODUCER ATTITUDES	1 (17%)	3 (37.5%)	0 (0%)	3 (2%)	0 (0%)
H. LACK OF UNIFORM PACKAGING AND GRADING	5 (83%)	8 (100%)	1 (16%)	107 (74%)	1 (14%)
I. BUYERS AND PRODUCERS DON'T KNOW EACH OTHER	4 (67%)	4 (50%)	1 (16%)	77 (53%)	6 (86%)
J. OTHER, PLEASE LIST	2* (33%)	3	6 (100%)	3 (2%)	0 (0%)
	- Shelf Life	-Shelf Life (25%) -Short Growing Season (12.5%) -Farmer Competition (12.5%)	-Lack of USDA meat inspectors -Lack of constant supply & quality	5 (3%) - No opinion	

CONCLUSIONS AND RECOMMENDATIONS

In this study, the commission houses surveyed purchased none of the selected products locally. They cited lack of uniform packaging and grading, buyer attitudes, and buyers and sellers don't know each other as major barriers to marketing local products. Agricultural producers should be aware that uniform packaging and grading, transportation cost and freshness are important to these buyers.

Surveyed produce purveyors purchased no local strawberries or broccoli and only a small quantity of Ohio tomatoes. They identified lack of uniform packaging and grading and low quality as barriers to marketing locally. Agricultural producers should use uniform packaging and grading and offer consistently high quality product.

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The studied supermarket chain stores were the largest buyers of locally grown strawberries, tomatoes and broccoli. All indicated they would like to increase their local purchases.

These buyers frequently mentioned high quality, good price, freshness and buyer loyalty to Ohio as reasons they purchased local products. When asked why more fresh Northeast Ohio agricultural products are not marketed locally, they cited low quality, buyers and producers don't know each other and lack of uniform packaging and grading. Agricultural producers should approach supermarket chain as already receptive buyers. They should uniformly package their product, make sure it is of the highest quality and price it competitively.

Some of the surveyed restaurants purchased products locally and there is a willingness to increase both number and quantity of local products used. Buyers from restaurants felt the biggest barrier was they did not know local producers. They are far less concerned with uniform packaging and grading, price, or low quality than other surveyed buyers. Producers should make special efforts to meet and establish unique business relationships with chefs and restaurant buyers. They should also be aware that the quantities used by restaurants are often comparatively small and transportation costs may be higher due to the limited quantities.

There is a need for additional research and educational programs on marketing, production and post-harvest techniques in Ohio. These programs should be designed to assist those interested in exploring business opportunities associated with the increased marketing of local fresh agricultural products in nearby markets. This appears to be a somewhat neglected niche in Ohio's food distribution system, and the possibility for expanded business activity in this sector is exciting.

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MARKETING OF SELECT FRESH AGRICULTURAL PRODUCTS IN THE CLEVELAND, OHIO METROPOLITAN AREA

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INTRODUCTION

The authors stated that in 1987, a three year project was begun to facilitate through educational efforts the marketing of fresh local agricultural products in the Cleveland Metropolitan area. Although the authors of the current study did not specify this study was part of the larger study, after reviewing the purposes and objectives of this study, this reader was lead to believe that the current study was a smaller study within the larger study. If this is a true assessment, the authors ought to make that statement.

Furthermore, in two sentences, the authors presented the lack of related literature and justification for the current study. I begin to ask the question: where was the review of literature and the past data which were collected since 1987? Couldn't the previous literature found for the larger study contribute somewhat to the smaller study? In regards to the justification, as researchers, we generally tend to believe that just because we don't know "what is" or because we don't know "the whys," that a research study is necessary. The authors of the current study did just that. "Due to a lack of sound research data on these topics," does not justify the current study or any study.

In addition, the authors, in the introduction section, stated a conclusion of the study. If the authors tend to publish this piece of research, I strongly recommend that the third paragraph of the introduction be moved somewhere towards the end of the document.

PURPOSE AND OBJECTIVES

The purpose and objectives of the study were clearly stated. However, the authors should attempt to tie closer the purpose of the study to the problem which could be identified in the introduction section.

PROCEDURES

Three products (strawberries, broccoli, and tomatoes) were selected as the agricultural products for the current study. The authors stated that these products were chosen because they were "significantly" different and were "representative" of a larger number of commodities. I would like for the authors to explain what exactly is meant by the term "significant." As researchers, we generally think of the word significant as having some statistical basis for its use. Was this the case? Again, how and what specific criteria were used to determine if a product was "representative" or not?

The procedures utilized to select the sample of the study were not based on any scientific principles of random sampling. The authors clearly stated that the results of the study would not be generalizable to the entire population. This is excellent. If the authors were not going to generalize to the population, then why was so much detail allotted to the random selection of the groups? Why didn't the authors purposefully select the group participants?

In regards to the questionnaire or interview instrument used in the study, I did find evidence of reliability, yet it was not reported as such. I did not find, however, evidence of validity. Another question: why was the questionnaire or interview instrument mailed to the interviewees prior to the interview? Did this affect the responses you received from the interviewees?

One final question on procedures. Who answered the questions on behalf of the groups interviewed? Was it the manager, owner, an employee, a purchasing agent, who?

RESULTS

In regard to the results of the study, I have one question. Why did the authors report the data on Tables 2, 4, and 6? I failed to find a research question or objective for the study which sought to determine how much acreage was needed to grow the agricultural products in question. The solution is simple, when the research is rewritten for submission for publication, the authors need to add an objective 3 to ask the relevant question regarding acreage.

On Table 9 of the result section, the table makes reference to meat wholesalers. Why was this group not mentioned anywhere else in the research study? Were the meat wholesalers part of the study?

CONCLUSIONS AND RECOMMENDATIONS

Overall I concur with the recommendations which are forwarded by the authors. However, I did have some trouble with the conclusions which were reached. At one point in the result and conclusion sections, the authors reported that supermarket buyers mentioned high quality (75%) and good packaging and service as reasons why they buy local products. However, when the same people were asked why more Ohio products were not marketed locally, they cited low quality (77%) and lack of uniform packaging and grading (74%). I don't understand what has happened. Are the supermarket buyers satisfied with the quality and the uniformity in packaging and quality? The data in the current study leaves the reader unsure.

THE READABILITY OF WRITTEN MASS MAILING MATERIAL PRODUCED AT THE COUNTY LEVEL OF THE ALABAMA COOPERATIVE EXTENSION SERVICE

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INTRODUCTION

Educational written material is produced at both the state and county levels by the Alabama Cooperative Extension Service (ACES). At the state level, most of this material is in the form of subject-matter bulletins, while at the county level it falls into two main categories -- newspaper material and mass mailing material. Some of the newspaper and mass mailing material is written at the state level by communications specialists, and then edited and rewritten by county agents to "localize" them. However, much of the material is written first-hand at the county level, with no input from state extension staff. The county agent bears the responsibility of insuring that this educational product is written effectively for the intended audiences. The newspaper material is subject to editing by the newspapers which use the written pieces, but the mass mailing written material goes out to Extension clientele directly from the county agent. For this reason the mass mailing material best exemplifies the educational written product disseminated by county agents.

Mass mailing material includes newsletters and circular letters. Newsletters are generally sent on a regular schedule, such as monthly or quarterly. An extension newsletter may be subject-matter specific, or it may cover a variety of subject matter topics. A circular letter concerns a specific topic, and is sent on an as-needed basis. Both newsletters and circular letters customarily are sent to clientele whose names are on specific mailing lists maintained by the county agent.

Mail material has a high impact on educational program delivery by ACES. The following figures from Lee County illustrate its educational role. For the six-month period from January 1-June 30, 1988, 18,821 individual pieces of mail were sent from the Lee County Extension office, a county which is average in use of mail material. On this basis, an estimated 2,522,014 pieces of mail are sent annually from the 67 county offices of ACES. The majority of these pieces are in the form of mass mailings. In a research study, Bringing Extension Services to Alabamians: A

Statewide Survey of Information Needs and Awareness (Mullins, 1982), 69% of 1,220 Alabama adults interviewed ranked newsletters first among several information dissemination methods.

The extensive use of mail material by county agents and the expressed public approval of this educational delivery method point to the need for such materials to be written at a readability level that is appropriate for the intended audience.

Readability is the ease of understanding or comprehension due to the style of writing (Klare, 1984). Use of readability principles involves matching reading level of the written material with reading ability level of intended audiences. Flesch (1951) emphasized the importance of the writer identifying his audience, stating, "There's no point in controlling readability if you don't know who you are writing for" (p. 25).

A readability formula is a method of measurement which provides an estimate of the style difficulty of writing (Klare, 1963). Readability formulas, developed mainly in the 1940s, today are being used widely in schools, libraries, businesses, government, and newspapers and magazines (Fry, 1986).

Klare (1963) reported that two factors emerge in assessing style difficulty of writing: a word factor and a sentence factor. Word length and sentence length were the basis of most of the earlier readability formulas. Present formulas in large part are still based on word difficulty (number of syllables) and sentence length (Collins and Cheek, 1989). These researchers reported that among the more popular formulas presently in use are the Fry Readability Graph, the Flesch Reading Ease Test, Aukerman's formula, the Dale-Chall formula, the Spache formula, and the SMOG formula.

Limitations of readability formulas have been recognized since their inception, and several were cited by Klare (1963), Collins and Cheek (1989), and Spache (1963). Klare indicated that formulas measure only one aspect of writing, namely style, and only one aspect of writing style, namely difficulty, and the latter only imperfectly, because they appear to give scores accurate to about one grade level. Furthermore, formulas do not take into account the different interests, purposes, background, intelligence, maturity, and motivation of readers. Collins and Cheek made two other important points, namely that there is no formula which measures concepts, and that the specialized vocabulary in all content areas tends to raise the readability grade level of the material. Spache also reported that formulas do not consider the impact of content or literary quality on the reader's interest.

Recognizing that readability formulas have several limitations, researchers urge caution in using them. However, they generally agree that formulas render valuable service in providing an estimate of the readability grade level of a written selection (Collins and Cheek, 1989; Spache, 1963). The primary goal for using readability formulas is to influence reader behavior. Klare (1984) reported evidence that clearly supports the fact that improved readability can produce increase in (1) comprehension, learning, and retention; (2) reading speed and efficiency; and (3) acceptability or preference of materials.

Little research has been done on readability of Cooperative Extension Service written materials. Most of this relates to materials written by state specialists. Reyburn (1979) conducted a national study on readability of 4-H project books, and found that 75% of the material was written for 7th grade and higher, while about two-thirds of the 4-H audience was enrolled in grades 4-5-6. Written material targeted to a specific Extension audience was examined by Nehiley and William (1980). They assessed the readability of two Florida Extension publications, an original publication and one targeted to a limited resource audience. The original bulletin was written at the 12th grade level, and the targeted bulletin at the 6th grade level.

One study was found in the literature which examined readability of Extension written materials produced at the county level. Upchurch (1969) assessed the readability of newspaper articles written by North Carolina agricultural agents. He found that 65% of the agents wrote articles above the 12th grade readability level. Upchurch also found that agents with graduate study in adult education tended to write articles with a lower readability grade level, and thus more appropriate for a general public audience.

These studies indicate that perhaps much of Extension material is written at a level higher than the reading level of intended audiences. Mavrogenes (1988) reported that the average adult in the U.S. reads at the 9th grade level. The Alabama Cooperative Extension Service, according to state staff communications specialists, has limited knowledge of the readability of mass mailing materials produced and disseminated at the county level. If these educational written materials are to be effective, Alabama county agents must know the reading ability of their audiences, and use readability principles in writing for these audiences.

PURPOSE AND OBJECTIVES

The purpose of this study was to assess the readability of the mass mailing written material produced and disseminated at the county level of the Alabama Cooperative Extension Service.

The objectives were to:

(1) Assess the readability of the mass mailing written material produced at the county level of ACES.

(2) Determine if a significant model existed explaining a portion of the variance in the readability of mass mailing written material from selected personal and program characteristics.

PROCEDURES

Population and Sample

The target population was the ACES county agents who had been employed by the organization for at least one year. The frame included 246 agents. A simple random sample of 100 agents was drawn from the identified frame. The minimum required sample size was determined to be 78 using Cochran's formula (Snedecor & Cochran, 1980).

Instrumentation

Two instruments were used: (1) A brief survey questionnaire covering agents' personal and professional information, and information on their interest/training in writing; and (2) the Fry Readability Graph.

The questionnaire was reviewed for content validity by a panel of 11 experts, all of them from Louisiana, including an LSU School of Vocational Education faculty member, a parish (county) extension agent, an LCES state specialist, a vocational education teacher, two vocational education doctoral students, and five graduate committee members. It was also field tested for further validation with six parish agents of LCES.

Agents were asked to provide samples of their written mass mailing material. The Fry Readability Graph was used to assess the readability grade level of these pieces. The Fry Readability Graph was selected because: (1) It can be used with materials written at all levels; (2) It provides a fast and simple method of determining readability grade level; and (3) It is familiar to those in the reading field, and the availability of a simple hand calculator has added to its simplicity. The Fry Readability Graph utilizes a continuous range of scores from grade one through grade 17, and its accuracy in prediction of reading difficulty is within about a grade level (Fry, 1968). The Fry graph has been validated by interformula and comprehension scores, with the Fry method producing scores similar to other readability formulas (Fry, 1977). Fry (1968) reported his Readability Graph to correlate .78 with Botel, .94 with Dale-Chall, .96 with Flesch, and .98 with the SRA formula.

Data Collection

The initial mailing of the questionnaire and cover letter was done in October, 1988. One week prior to this, agents in the sample had received a letter of endorsement of the study from Dr. Ann E. Thompson, Director, ACES. Two weeks after the initial mailing all non-respondents were sent a reminder postcard. Second and third mailings of the cover letter and questionnaire were made at two-week intervals.

The sample of 100 agents was decided upon to compensate for potential non-response. A 90% response rate was anticipated. If the response rate was less than this, a follow-up was planned by telephone to elicit response from a 50% random sample of the non-respondents. Ninety-eight (98%) of the 100 agents responded, and 97 (97%) responses were usable. Because of the high response rate, the telephone follow-up of non-respondents was not conducted.

Agents were asked to send three of their recent mass mailing pieces on agriculture or home economics, written for educational purposes (more than just a meeting announcement). Agents with both youth and adult job responsibilities were asked for written materials intended for each audience.

The 97 agents provided 273 usable written pieces. (One agent provided no written material, but did respond to the questionnaire. Also, one of the agents providing written material did not respond to the questionnaire.) Ten agents provided only written material intended for a youth audience. Sixty-one agents sent only material intended for an adult audience. Twenty-five agents provided examples of both youth audiences and adult audiences written material. Of the 273 usable pieces, 215 were intended for adult audiences and 58 for youth audiences. Regarding subject-matter content, 135 concerned agriculture, and 138 home economics. The distribution of the written materials by intended audience and subject matter is shown in Table 1.

Table 1
Respondents' Mass Mailing Written Materials by Intended Audience and Subject Matter

Written Material	Agents no.	Pieces no.
Adult audiences	86	215
Youth audiences	35	58
Agriculture	49	135
Home Economics	47	138
Adult agriculture	48	120
Youth agriculture	11	15
Adult home economics	38	95
Youth home economics	24	43

The readability grade level of each written piece was assessed using the Fry Readability Graph. This requires a count of average number sentences per 100 words and average number of syllables per 100 words. On agents' written pieces one page or less in length, the first 100 words and the last 100 words were used as samples. On pieces longer than one page, a 100-word sample from the middle of each page was used. The readability grade level assigned for each piece was the average of all 100-word samples selected from that piece.

Data Analysis

The alpha level was set at .05 *a priori*. Statistical analysis was accomplished as follows: (1) Descriptive statistics were used to provide a description of the responding county agents, and to indicate the readability grade level of agents' mass mailing written material. (2) Stepwise multiple regression was used to determine the amount of variance in the readability of agents' mass mailing written material that could be explained by selected variables. The variables included in the analysis were gender, age, race, highest educational attainment bachelor's degree, highest educational attainment master's degree, highest educational attainment master's degree plus, number of semester hours beyond the master's degree, bachelor's degree area of study, master's degree area of study, years of employment by Extension, hours spent weekly writing for Extension clientele, number of university courses (beyond freshman English) taken in writing, interest in writing, hours of inservice communication training, adult audiences, youth audiences, agriculture subject matter, and home economics subject matter.

RESULTS

Description of Alabama County Agents

Agents' mean age was just over 40 years, and agents' mean years of employment by Extension was about 15. Agents were almost evenly divided between males and females. Almost a fourth of the agents were black, and just over three-fourths were white.

A fourth of the agents had only a bachelor's degree, and the remainder had a master's degree. A third of the agents had taken course work beyond the master's degree, with the mean semester hours taken about 10. Just over half the agents had a bachelor's degree in a technical agriculture or home economics area, and the remainder had the degree in agricultural or home economics education. Just over half the agents with a master's degree earned the degree in education, and the remainder had the degree in a technical area.

Forty percent of the agents had taken no university writing courses beyond the freshman English level. Forty-three percent of the agents had taken only one college writing course beyond freshman English.

The agents' mean hours of inservice communication training in the last five years was about 13. Over half the agents liked writing, one fifth disliked it, and one-fourth were ambivalent. On an average, agents spent almost six hours weekly writing for Extension clientele.

Readability Grade Level of Agents' Mass Mailing Written Material

Readability grade level was calculated on 273 pieces of written material, grouped by the two variables of intended audience and subject matter.

Table 2
Readability Grade Levels for ACES Mass Mailing Written Material by Intended Audiences and Subject Matter

	Adult	Youth	Overall
Agriculture	11.6 (sd=2.6)	8.5 (sd=2.1)	11.2 (sd=2.3)
Home Economics	10.8 (sd=2.2)	10.1 (sd=2.3)	10.4 (sd=1.8)
Overall	11.2 (sd=2.4)	9.6 (sd=2.3)	

Table 2 shows that adult audiences material (M = 11.2) was written at a readability level about one and a half grades higher than youth audiences material (M = 9.6). Agriculture material (M = 11.2) was written at a readability level about a grade higher than home economics material (M = 10.4). About a three-grade difference existed between adult agriculture (M = 11.6) and youth agriculture (M = 8.5), while less than a one-grade difference separated adult home economics (M = 10.8) and youth home economics (M = 10.1).

Regression Analysis of Readability

Two criteria were used to select the variables which were included in the stepwise regression analysis. The first criterion was degree of correlation between the independent variables and readability (with r = .1 or greater for a variable to be included), and the second criterion was evidence of multicollinearity between independent variables. As a result seven variables were included, and six of them explained 13.36% of the variance. These variables were: highest educational attainment bachelor's degree, gender, hours of inservice communication training, semester hours beyond the master's degree, highest educational attainment master's degree plus, and hours spent weekly writing for Extension clientele.

Results of the regression analysis are shown in Table 3. Highest educational attainment bachelor's degree was the variable which entered first in the regression model, and it explained 4.6% of the variance in readability. Gender accounted for about 3% of the variance, with the remaining four variables each accounting for less than 2% of the variance in readability.

Table 3
Multiple Regression Analysis of Readability of Agents' Mass Mailing Written Material (n = 97)

Source of Variation	SS	df	MS	F-ratio	prob. of F
Regression	55.16	6	9.19	2.321	.040
Residual	357.82	90	3.98		

Variables in the equation

Variable	R^2	cum R^2	b
Highest ed. attainment bachelor's degree	.0462	.0462	-.7425
Gender	.0299	.0760	-.6072
Inservice communication training	.0175	.0936	.0396
Semester hours beyond the master's degree	.0184	.1120	.0608
Highest ed. attainment master's degree plus	.0104	.1224	.5254
Hours spent weekly writing for Ext. clientele	.0112	.1336	-.0680

Variables not in the equation

Variable	t	sig t
Youth audience	.146	.8839

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Readability Grade Level of Agents' Mass Mailing Written Material

Agents' mass mailing written material intended for adult audiences was written at a mean readability grade level of 11.2, or just over the 11th grade level. This means that the average readability grade level for adult audiences material was about two grades higher than the reading level of the average adult in the U.S., which is 9th grade (Mavrogenes, 1988). In fact, as many as two-thirds of the agents submitting adult audiences material wrote this material at an average readability level of 10th grade or higher, again beyond the reading grade level of the average U.S. adult.

Agents' mass mailing material intended for youth audiences was written at a mean readability grade level of 9.6, or about midway between 9th and 10th grade. Seventy-five percent of Alabama 4-H members are 7th graders or lower and 86% are 8th graders or lower. The average Alabama youth enrolled in school reads at grade level (A. C. Hess, personal communication, October, 1988). This means that, on the average, material for youth audiences was written at a readability grade level higher than the reading grade level of 86% of the intended audience.

Agriculture subject matter material (M = 11.2) was written at a readability level about a grade higher than home economics material. It is the personal opinion of this researcher that, generally, agriculture subject matter material is communicated in more technical terms than home economics subject matter material.

Regression Analysis of Readability

Six variables were significant in explaining 13.36% of the variance in readability. Three of the predictors were positive and three were negative. Positive predictors were inservice communication training, semester hours beyond the master's degree, and highest educational attainment master's degree plus. Negative predictors were highest educational attainment bachelor's degree, gender, and hours spent weekly writing for Extension clientele.

Readability grade level of written material tended to increase with agents' higher educational attainment. As educational level increases, there are more abstractions and difficult concepts to be learned. Perhaps this increased complexity of knowledge and thinking is reflected in one's writing. Readability grade level of materials tended to increase with increase in agents hours of inservice communication training. Again, the conclusion could be drawn that, with additional training, concepts learned become more abstract and difficult, and this increase in complexity is reflected in higher readability of written material.

Although males tended to write at higher readability grade levels than females, it is difficult to draw a general conclusion from this finding. Again, this researcher believes that the difference is related to subject matter. All agriculture material was written only by males, and all home economics material was written only by females. A similar conclusion about subject matter (agriculture material written at a higher readability grade level than home economics material) was drawn with regard to Objective 1.

Readability grade level tended to decrease as agents spent more time on writing for Extension clientele. It should be realized that some agents may be spending more time in writing simply because they are producing a greater quantity of written material. This possibility was not resolved in this study. Nevertheless, it could be concluded that at least a portion of the decrease in readability level can be attributed to the additional time spent by agents on making their written pieces more appropriate for intended audiences.

Recommendations

It would be appropriate for the ACES to include the topic of writing for readability in future inservice communication training. At such training, agents could be introduced to the concept and principles of readability, and apprised of the results of this study, particularly the finding that their mass mailing materials have been written at higher readability grade levels than the average reading grade levels of both adult and youth audiences. They could be instructed in and given the opportunity to practice writing techniques which will enable them to write at grade levels appropriate for the intended audiences. Subjects to be taught might include basic readability principles, particularly average sentence length and average word length, calculating readability of written materials using the Fry Readability Graph, and revising materials to improve readability. Instruction might also include other readability criteria such as active voice, relative clauses, antecedents, connectives, organization of materials, and density of concepts (multiple ideas within a sentence).

Studies are recommended within the Cooperative Extension Services to assess the readability of state and county level written educational materials in relation to reading ability of specific audiences, and to identify other variables that might contribute to the readability of written extension materials.

REFERENCES

Collins, M. D., & Cheek, E. H. (1989). Diagnostic-prescriptive reading instruction: A guide for classroom teachers. Dubuque, IA: W. C. Brown.

Flesch, R. (1951). How to test readability. New York: Harper & Brothers.

Fry, E. (1968). A readability formula that saves time. Journal of Reading, 11, 575-578.

Fry, E. (1977). Fry's readability graph: Clarification, validity, and extension to level 17. Journal of Reading, 21, 242-252.

Fry, E. (1986, April). A second look at the validity of readability. Paper presented at the 31st annual meeting of the International Reading Association, Philadelphia, PA. (ERIC Document Reproduction Service No. 267 385)

Klare, G. R. (1963). The measurement of readability. Ames, IA: Iowa State University Press.

Klare, G.R. (1984). Readability. In P. D. Pearson (Ed.), Handbook of reading research (pp. 681-744). New York: Longman.

Mavrogenes, N. A. (1988). Readability and parent communication: Can parents understand what schools write to them? Reading Horizons, 29(1), 5-12.

Mullins, E. (1982). Bringing extension service to Alabamians: A statewide survey of information needs and awareness. A Capstone Poll project commissioned by the Alabama Cooperative Extension Service, Auburn, AL.

Nehiley, J. M., & William, R. D. (1980). Targeting extension publications. Journal of Extension, 18(Nov./Dec.), 11-17.

Reyburn, J. H. (1979). Are 4-h project books readable? Journal of Extension, 17(Sept./Oct.), 10-14.

Snedecor, G. W., & Cochran, W. G. (1980). Statistical methods (7th ed.). Ames, IA: Iowa state University Press.

Spache, G. D. (1963). Toward better reading. Champaign, IL: Garrard.

Upchurch, J. W., Jr. (1969). Readability of newspaper articles written by county agricultural extension agents. (Rep. No. 9). Raleigh: North Carolina State University, Department of Agricultural Information. (ERIC Document Reproduction Service No. ED 052 415)

THE READABILITY OF WRITTEN MASS MAILING MATERIAL PRODUCED AT THE COUNTY LEVEL OF THE ALABAMA COOPERATIVE EXTENSION SERVICE

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INTRODUCTION

The introduction section of this study was rather lengthy, although very informational and relevant to the study. However, the authors go into some detail as to the mass mailing procedures and the volume of mail which is distributed to the extension clientele. Was all the detail regarding the mass mailing necessary when the main question was the readability level of the material. I must admit, however, that I found the data interesting, but not necessarily essential.

The authors made reference to several related studies and have very clearly and logically presented the material in the introduction section. Although the authors clearly cited and elaborated on previous research studies, the authors, at the same time built a strong case indicating the need for the current study in the State of Alabama.

PURPOSE AND OBJECTIVES

The purpose and objectives of the study were clearly stated. The authors did a superb job of identifying a problem in the introduction section and following up with the appropriate purpose and objectives.

PROCEDURES

The target population was the Alabama County Extension agents which numbered 246. Utilizing Cochran's formula, the authors needed a sample size of 78. The authors instead, decided to use a sample of 100 agents to compensate for "potential non-response." Did the authors not have confidence in the formula or the county agents sampled? I fail to find justifiable logic for violating sample size determination procedures which have been found to be appropriate by many researchers.

The authors cited two instruments were used to collect the data: a survey questionnaire which was validated by a panel of experts and the Fry Readability Graph, which the authors have cited as being valid. However, there is no mention of reliability.

The authors stated that the agents provided samples of their written material and the Fry Readability Graph was used to assess the readability grade level. The question is, who did the assessment referred to by the authors? Was it one of the authors or was it both of the authors? If it was both of the authors, were both authors using the same criteria and values in the assessment? The authors of the study need to clarify the question of inter-rater reliability.

The 97 agents who responded provided 273 usable written pieces. The authors, in the introduction section, stated that an estimated 2,522,014 pieces of mail are sent annually from the 67 county offices of the Alabama County Extension Service. Did the authors ever consider whether the 273 usable written pieces were of sufficient sample size for a population 2,522,014?

RESULTS

Although the authors did state in the instrumentation section that demographic data was collected from the agents and reported in the results section, no specific objective was identified as part of the current study reflecting the collection and interpretation of the demographic data. I suggest the authors add another objective to reflect the demographic data because some interesting results are evident.

The criteria used to select the variables which were included in the stepwise regression analysis were the degree of correlation between the independent and dependent variables and evidence of multicollinearity among the independent variables. The authors stated that for a variable to be included in the regression analysis on the former criterion of correlation between the independent and dependent variables, an r value of .1 or greater was necessary. Why did the authors select the .1 value. Was this an arbitrary selection or was the selection based on some scientific principle?

There were seven variables included in the regression analysis and six of them only explained approximately 14% of the variance. By the authors having identified six of the variables which explained some of the variance, I begin to wonder what else could explain the remaining 86% of the variance. I would certainly encourage the authors to continue seeking answers to this question.

CONCLUSIONS AND RECOMMENDATIONS

The authors have done a masterful job of presenting the conclusions and recommendations in a manner which is neither complicated nor confusing. The authors did make reference to something that bothered me as a reader. The findings indicated that the agricultural subject matter was written at a higher grade level than the home economics material. This interpretation is fine. What follows was the confusion. The author (which author is unknown) stated a personal opinion that agricultural subject matter is communicated in more technical terms than home economics material. If I was a home economist, I would be strongly offended by such a remark in such a fine research study which thus far has documented all its facts. Secondly, I wonder which one of the authors made that statement and implicated the second author. Or, do both authors agree on that statement?

GROUNDING INSTRUMENTATION IN REALITY
Developing Tools for Extension Educators

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INTRODUCTION

From the anthropologic works of Mead, Benedict and others, an approach to understanding the inherent worth of any living culture emerged and moved beyond the separate and distinct fields of folklore (Goodenough, 1971; Brunvand, 1968). Concurrently, Parsons was developing his structure of social action based on the development, maintenance and closeness of the group (Turner, 1974). Art education has long used cultural artifacts as representations of cultural patterns (Boyer, 1987). The four fields of anthropology, folklore, sociology, and art education all consider living culture, the customs and civilizations of a particular group of people, as important (Oxford, 1980).

The definition of culture also permits the emergence of subcultures; people who share a "world view" which combines their symbols, values, beliefs and behaviors to reflect their immediate environment and how they react with outside change (Kearney, 1984). Because "every culture stands in a deeply symbolical, almost...mystical, relation to the Extended, the space in which and through which it strives to actualize itself" (Spengler, 1961), this central purpose guides the Pattern of the culture or the customs, institutions, and traits of that group of people who subscribe to the idioms of the culture (Benedict, 1935). In complex societies, certain prevalent behaviors are expected, standards of living are accepted, and levels of appreciation are supposed. Yet, within each of these societies, there are people who are bound by a variant view:

these people may be held together through a unique history, through geographic constraints, through personal beliefs and life-styles. To these deviants is given the label of "subculture," which in an historic sense refers to a "lesser" culture than the prevalent. For this paper, we will use the concept that in a subculture "the culture itself is not 'smaller' than the great culture...the group which enacts it is smaller than the great society" (Lasswell, 1952). Thus, the subculture is the group's conscious representation of the outside world which is the group's reality (Sanchez, 1987). This view is sensory and subcortical or below the level of consciousness and can be any common factor as "a group formed for whatever reason will have some traditions which it calls its own" (Dundes in Bascom, 1977, p. 23).

For educators, this definition of subculture can be extended to any group when the collective "world view" of the group is broadened to be understood as a collective group "goal" or conscious (Van Tilburg & Heimlich, 1987). In Extension, working with groups, i.e., a broadly defined subcultural set, is an important task. The issue of coherence of the group and thus the strength of the subculture is determined by a rubric and hierarchy of (1) the subconscious belief system (Jung et. al, 1964); (2) values inherent in the beliefs (Knowles, 1973); (3) how the group learns and relates within itself (Bascom, 1977); (4) beliefs about the major culture (Parsons, 1966); and (5) past history of the group with the topic (Heimlich & Van Tilburg, 1987). Additionally, anthropological studies historically assumed cultural homogeneity in social groups and omitted the sociological view of social stratification by cultural idioms (Leach, 1984). It can be said that all persons are members of some subculture or many subcultures and it becomes important then to view members of modern societies as members of many different, sometimes competing groups (Dundes, 1977).

Problems remain, however, in the definition of the term of subculture due in part to the words by which they are identified: subculture, lesser (great) culture, minor (major) culture, predominant culture, overriding culture, super culture and so forth. The denotation of these refer not to superiority but to size (Lasswell, 1952) but the connotations of each contain negative images.

Little work has been done regarding how educators naturally interact with any subculture. The fields above suggest reflective approaches, but adult educators must enter into dialogue with a group without the benefit or leisure of time. Common experience with subcultures and groups may be considered by individuals as invaluable in the betterment of themselves as educators, but the scope of adult education precludes the ability of an educator to have common experience with all members of learning groups. Rather the role of the educator is, in part, to "inspire, induce, guide and teach adults in all phases of personal development and enrichment so that each individual can work out his [sic] own way of living, and of finding meaning in life, his [sic] own approach to realizing himself [sic] as an individual" (Jensen, Liveright, Hallenbeck, 1964, p. 13). Therefore, it would benefit an educator to understand individual preferences for teaching style based on sensitivity to subcultural elements and inclusionary practice of the educator in directing learning activities.

The Cooperative Extension Service, one of the largest adult education organizations, deals with a multitude of subcultures on a routine basis. Thus, it would be highly beneficial for Extension faculty to be able to identify preferences for teaching style based on cultural sensitivity and learning practices.

PURPOSE AND OBJECTIVES

The purpose of the study was to explore and describe the nature of the process of teaching in the subculture. The study focused on the identification of factors related to the teaching process with specific emphasis placed on two constructs: sensitivity and inclusion.

Sensitivity is defined as the quality or condition of being susceptible to the attitudes, feelings, or circumstances of others. For the purposes of this paper, sensitivity is the degree of awareness of the educator to the unique cultural elements defining the values, beliefs, and history of the group.

On a very abstract level, adults in a class, group, or learning situation can be defined as a subculture. The degree of bonding of the group depends upon the number of shared traits and histories of the individuals within the group. A subculture is clustered sets of behavioral norms that can be differentiated from a larger culture. Much of the group's self definition is transferred from individual to individual through non-formal means. What is transferred is often the belief in the symbols that have value to the group. The symbols of belief are representative, freely created (not necessarily logical), and transmitted by the culture (de Carvalho-Neto, 1965).

All people are members of many subcultures concurrently. Often individuals can be members of subcultures which are in conflict such as mothers of infants and working women representing two subcultures. It is easy to distinguish an individual's membership in a subculture that differs in language and behavior from ones own behaviors. But the relationships of languages, cultures and individuals is more complicated than is commonly assumed. Even superficially homogenous societies or groups are socially stratified by cultural idioms. Membership of an individual in a subculture can be genetic, historic, geographic, or by choice. Society, culture, and individual personality are not independent variables in an individual; a person's psychological structure depends on the social experiences that form, reinforce, or dictate those traits of membership in the group.

Inclusion is the act of including or the state of having or being taken in as a part of a group, class, or a total. One tenant of adult education is that the adult learner benefits from involvement in setting learning outcomes. Inclusion of a group is not universally "better" and not all individuals have skills for group interaction. Thus, inclusion is a continuum of both learner and instructor behavior.

An individual's desire for learning is hierarchial, and based on internal conditions of the learner. The cohesiveness of the group or the level of concreteness of the world view of the group contributes to the potential for involvement of the group in decision making activities. Learning should be linked to the design of instruction with consideration given to the different types of capabilities being learned.

An educator has a preference for various teaching methods. Much of the preference is inherent and suggest potential strengths in the area of choice. The choice of method can suggest a degree of involvement of the group determining its involvement in subject matter, teaching methods, media and outcomes. Simply knowing that different methods are suggested does not guarantee that different methods are used equally and with equal skill by an educator. Rather, the unique abilities of the individual instructor will determine the predominant methods of education used.

The specific objectives for this study included:

1) To explore the process of teaching in the subculture with emphasis on sensitivity and inclusion.

2) To identify factors associated with the process of teaching in the subculture.

3) To develop instrumentation designed to measure factors associated with teaching in the subculture.

PROCEDURES

The following is a description of the methodology used in the process of instrument development. Both the qualitative and quantitative components have been included.

Design

The design of the study was really a two-step process incorporating first, a qualitative investigation and then using the results of the first step in the quantitative investigation. Instrumentation is not a linear progression but a cyclical process. Even though a sequence of events followed a timeline, much of the instrumentation process involved returning to previous steps to redo, rethink, or reanalyze. The description of the research process highlights this recycling phenomenon.

Population

One target population was involved in the instrument development. This population consisted of educators involved in teaching adult members of subcultures. This population essentially could include any adult educator but for the purpose of this study, was confined to individuals teaching in The Ohio State University. Four purposefully selected individuals from this population were included in the study, providing data for the qualitative portion. Individuals were selected based on their teaching philosophy (to maximize variance), experience related to teaching, and their teaching ability.

For the quantitative investigation, a purposeful sub-sample was selected and used as both a panel of experts and as a pilot test population (n=34). This sub-sample consisted of faculty and graduate students involved previously or currently in teaching adults.

Instrumentation, Data Collection, and Analysis

Because the focus of this study was instrument development, these three elements of the research methodology have been combined for ease in presentation.

To begin the exploration stage of the study, an interview schedule was developed for use with four adult educators. Key questions included: Describe your ideal teacher; In a teaching situation with a new group of students, what do you first think about (and do first)?; What do you ask the students about the group as a whole?; What teaching methods would you most likely use? Why?; What do you notice about the class in general and the individuals, specifically?; How do you guide students in the learning process? Are these techniques different for a new group?; To what extent are your lesson plan and methods flexible?; How do you decide what to teach and how to teach it?; Describe your teaching philosophy.

Individuals were interviewed in their offices using two interviewers, one for note-taking, recorder operation, and the other to ask the questions. Interviews were tape-recorded and lasted about one hour. Tapes were transcribed and data were analyzed using the scissor and sort method of qualitative analysis (Miles and Huberman, 1984).

From the analyzed data, a series of statements were developed (k=219) which were related to sensitivity and inclusion elements of teaching style and philosophy. These items were submitted to a panel of experts (measurement and content experts) to assess clarity and applicability of each item to the study (content validity). After re-wording some items, a final list of items was produced and duplicated with instructions for a second validity check.

The second sub-sample of the population (n=34) was asked to participate in this validity check by identifying each item as either related to inclusion, sensitivity, or neither. The respondents were also asked to respond to each item in terms of their agreement or disagreement with the statements as they applied to their own teaching. The scale used for this was a Likert-type four-point scale ranging from strongly disagree to strongly agree.

Quantitative data analysis began by viewing frequencies of responses for each item related to placement into one of three categories: sensitivity, inclusion, or the neither category. Next, binomial tests (alpha level = .05 a priori) were conducted using the placement of each item into either the inclusion or sensitivity categories (and eliminating missing data and "neither" responses from analysis). The results of this analysis answered the question, what is the probability that the proportion in the sample is different than 50/50 by chance?

A third type of analysis using the responses to the Likert-type scale was conducted. This was a principle components factor analysis using orthognal varimax rotation. Items loading on factors were included if the factor loadings were greater than or equal to .5.

The results of these analyses provided information on each item that: (1) indicated whether the item represented sensitivity or inclusion and (2) indicated what underlying construct was contributing to the score on that item.

Results

The results of the content analysis of the interviews produced ten trends in the data. Of these, four (Needs of the Educator; Needs of the Students; Background of Students; Role of the Educator as Model) related to the dimension of Sensitivity. Three of the trends (Motivation to Learn; Role of the Educator in Learning; Directing the Learning Process) were directly tied to the concept of Inclusion of Students. Three major trends, the Educator's Perception of the Students as Individuals, Educator's Perception of the Students as a Group and Students' Perceptions of the Educator did not fall into either dimension. Results of the binomial tests (Tables 1 and 2) provided information related to adult educators perceptions of items relatedness to sensitivity and inclusion.

Through the factor analysis of the 219 statements on a Likert-type scale, six factors emerged. These six factors accounted for 51.8% of the total variance explained. These factors were: (1) Basis for Instructional Method; (2) Educator's Perception of Students; (3) Educator's Perception of Self; (4) Educator's Perception of Student Needs; (5) Group Process; and (6) Classroom Methods (Table 3). Factors one (17.7% of variance), two (8.8%), three (7.8%) and four (6.7%) were related to the Sensitivity Dimension while Factors five (5.6%) and six (5.1%) were related to the Inclusionary Dimension. The researchers noticed that the sensitivity factors related to the way an educator feels but that the inclusion factors are related to how an educator puts into practice those feelings. This information is not statistically supported but is suggested for further investigation.

Two instruments were developed and are in the process of being tested. The first is a Likert-type scaled instrument designed to measure level of agreement on each statement in each of the six factors identified above. The scale is anchored with Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree (values 1 - 5). The second instrument, in development at this time, is two Thurstone Equal Appearing Interval Scales. Items in those scales will be weighted by median value according to strength determined by a panel of experts. The expected use of these instruments is to determine the mean score of a person on each independent scale. Both scores are placed onto one of two bisecting poles which locates individuals in quadrants of a two-by-two matrix.

Conclusions and Recommendations

Based on the findings, the following conclusions and recommendations were made:

1. Factors identified through the factor analysis represent the two dimensions of Sensitivity and Inclusion, though each factor represents a different point on a dimensional continuum. Therefore, the recommendation is to use both instruments (Thurstone in conjunction with Likert-type) with additional populations to confirm construct validity.

2. Through the analysis of the 219 statements gleaned from the interviews, the process used was successful in reducing the number of items. The qualitative portion of the study served two purposes: (1) to identify trends in the process of teaching within a subculture; and (2) to provide items to use in the quantitative measure. Therefore, this system appears to be an appropriate means of grounding theory into reality.

3. The Thurstone instrument is in the process of being completed and no conclusions can be drawn. However, it is expected that through further testing and experimentation, additional measures on the two constructs will support the use of the Thurstone for measuring in the entirety the constructs of Sensitivity and Inclusion.

4. Based on the nature of OCES (i.e., adult education), it is recommended that the type of instrumentation being developed be used to sensitize and assist faculty in conducting and targeting education programs.

References

Bascom, William R. (Ed). 1977. Frontiers of Folklore. AAAS Selected Symposia Series: Boulder, Colorado: Westview Press.

Benedict, Ruth. 1935. Zuni Mythology. New York, New York: Columbia University Press.

Boyer, Barbara A. Professor of Art Education. Interview. May, 1988.

Brunvand, Jan Harold. 1968. The Study of American Folklore. New York, New York: W. W. Norton & Company, Inc.

de Carvalho-Neto, Paulo (Jacques M. P. Wilson, trans) 1965. The Concept of Folklore. Coral Gables, Florida: University of Miami Press.

Goodenough, Ward H. 1971. "Culture, Language, and Society." In Current Topics in Anthropology. Vol. II. Reading, Mass.: Addison-Wesley Publishing Company.

Heimlich, Joe E. and Emmalou Van Tilburg. October, 1987. "Subcultures and Educators -- Concerns of Membership for Educators." Paper for American Association of Adult and Continuing Education Conference. Washington, District of Columbia.

Jensen, Gale, A. A. Liveright, and Wilbur Hallenbeck, Eds. 1964. Adult Education: Outlines of an Emerging Field of University Study. U.S.A.: Adult Education Association of the U.S.A.

Jung, Carl G., and M. L. von Franz, Joseph L. Henderson, Jolande Jacobi, Aniela Jaffe. 1964. Man and His Symbols. Garden City, New York: Doubleday & Company, Inc.

Kearney, Michael. 1984. World View. Navato, California: Chandler & Sharp Publishers, Inc.

Knowles, Malcolm, 1973. The Adult Learner: A Neglected Species. 2nd Ed. Houston, Texas: Gulf.

Lasswell, Harold Dwight, Daniel Lerner and Ithiel de Sola Pool. 1952. The Comparative Study of Symbols: An Introduction. Stanford, California: Stanford University Press.

Leach, Edmond. 1984. "The Diversity of Anthropology" in J. Mavalwal (Ed). Learning About Ourselves. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Miles, M. B. and A. M. Huberman. 1984. Qualitative Data Analysis. Beverly Hills, California: Sage Publications.

Oxford American Dictionary. 1980. New York, New York: Avon Books.

Parsons, Talcott. 1966. Societies: Evolutionary and Comparative Perspectives. Prentice-Hall, Inc.: Englewood Cliffs, New Jersey.

Sanches, Marta Josefina Monserrate. 1987. Natural Elements: Abstractions and Mental Images. Unpublished Master's Thesis. The Ohio State University: Columbus, Ohio

Spengler, Joseph John in Braibanti, Ralph J. E. and J. J. Spengler (Eds). 1961. Tradition, Values and Socio-Economic Development. Durham, North Carolina: Duke University Press.

Turner, Jonathan H. 1974. The Structure of Sociological Theory. Homewood, Illinois: The Dorsey Press.

Van Tilburg, Emmalou and Joe E. Heimlich. November, 1987. "Education and the Subculture: Incorporation versus Inculturation - Concerns for the Educator." Lifelong Learning. Volume II, No. 3.

TABLE 1

ITEMS PLACED INTO SENSITIVITY DOMAIN USING BINOMIAL TEST

Item #	Item	Observed Proportion	*p*
4	If I try to become a member of the group's culture and am not aloof from it, I lose the respect of the students.	.80	.002
5	I want to be a fried with all the students.	.81	.003
5a	I try to be a friend to each student.	.80	.004
6	I give students what I believe they need.	.75	.023
7	I never worry about whether students like me.	.85	.001
7a	If I earn the students' respect they will like me.	.83	.002
8	I do my job - to be a good teacher - and I earn the students' respect.	.75	.041
9	The students will like me if I do a good job.	.75	.023
13	I let the students know I've been in their shoes and I know why they're here.	.83	.001
18	In the way I present myself, I present a message about the content.	.82	.063
19	I want to know about the students and where they're coming from.	.77	.006
20	If I don't know the students, I take as much time to get to know them as necessary.	.75	.014
28	I need to establish credibility with an audience.	.74	.035
29a	I let the students feel comfortable with me.	.75	.023
34	I don't tell humorous stories because they can offend or get off on the wrong track with students.	.83	.003
35	Most jokes are misplaced in the classroom.	.88	.002
62	When I encounter students I really love but I've having trouble communicating with, I go back to the psychological principals of teaching.	.75	.041
63	The word "love" is underused because of other connotations - it's a part of the rapport.	.89	.001
64	I have to care about the people I'm trying to teach.	.86	.000
79	As I practice the art of teaching, I can tell automatically if I'm losing students by all kinds of things that may be unique to the U.S. culture.	.72	.043
82	There's so much that goes on in every little ten minute segment of a class.	.80	.035
93b	The one thing that drives me as a teacher is teaching.	.80	.035
118	I have no facades, no face put on to impress others.	.85	.023
121	I am aware enough of self to be aware of why a student is having trouble.	.76	.009
122	When a student reacts negatively to me, I need to find out what is wrong.	.89	.000
130	Like a parent toward a child, I show a caring attitude toward students.	.83	.002
131	I show patience and flexibility in all situations.	.77	.017
134	Every fifteen different students come from fifteen different worlds.	.91	.000

TABLE 1 (CONTINUED)

ITEMS PLACED INTO SENSITIVITY DOMAIN USING BINOMIAL TEST

Item #	Item	Observed Proportion	p
135	The worlds students come from may dominate their motivation for the day.	.93	.000
137	Student motivation is like energy - it takes time and energy to change or stop movement.	.76	.027
139	Students "at rest" tend to stay at rest.	.87	.007
140	I think about students as individuals.	.83	.001
141	I think about students as part of the class.	.71	.038
142	The first class session I find out who the students are as individuals, as separate human beings.	.81	.002
143	I like to find out abut the student's homes, their families, their hobbies, what sets them apart as individuals.	.83	.001
145	I need to know where students are hurting which causes them to be enrolled in the course.	.72	.043
151	Teaching adults or youth makes no difference.	.76	.049
176	I understand why people do what they do.	.89	.001
177	People do what they do because they want something they don't have or they have something they don't want.	.88	.004
181	A student's need is always there.	.77	.017
185	I try to protect the students' self-esteem and I can do that only when I'm close to them.	.77	.011
187	A teacher must love the students or they cannot love teaching or the subject.	.86	.002

TABLE 2

ITEMS PLACED INTO INCLUSION DOMAIN USING BINOMIAL TEST

Item #	Item	Observed Proportion	p
40	There is a certain level of synergism in any group.	.27	.031
47	If I need to, I change from lecture format to discussion format.	.28	.026
49	I change from lecture format to discussion format easily.	.26	.035
52	I use a groups' experiences in planning my own instruction.	.29	.031
53	It means more to a group to get a principal or concept to evolve from the group.	.19	.003
54a	My methods of instruction depend entirely upon the group.	.30	.045
55a	My methods of instruction depend entirely upon the content and the group.	.27	.018
69	I put learning theory, student competencies and teaching style together in a logical sequence.	.23	.017
128	Directing learning does not mean to lecture or talk.	.067	.001
144	After I know the students, I eventually move into what their objectives are for the course.	.25	.014
149	With students I find out where we are now, where do we want to go, what steps do we take to get there, and how do we know when we've arrived.	.28	.026
160	Using a problem-solving approach I can teach my subject better, more efficiently more effectively.	.15	.003
163	I often use the learning group or committee approach where I pose a problem and have the groups explore causes and possible solutions.	.08	.000
164	I use group process to see how the students get along.	.13	.001
165	I use group process to teach how groups work.	.13	.000
166	I use group process to vary my teaching style.	.09	.000
167	I use group process to involve the students in the process.	.15	.001
170	I always plan how to structure student groups for maximum learning.	.14	.001
171	I plan how to structure student groups for maximum decision making.	.09	.000
180	Even when I don't have time to get to know the students, I still use problem-solving approach.	.15	.003
190	What I teach is subject to students.	.24	.049
201	There is a process to teaching groups.	.25	.041

TABLE 1

MEANS, STANDARD DEVIATIONS, AND FACTOR PATTERN

	Item	$\bar{x}$	sd	Basis for Instructional Method	Educator's Perceptions of Students	Educator's Perceptions of Self
1	I need to know where students are hurting which causes them to be enrolled in the course.	2.78	.63	.84		
2	I address my whole teaching calendar based on the uniqueness of the group and the way they learn best.	2.73	.75	.77		
3	I am aware enough of self to be aware of why a student is having trouble.	2.59	.61	.65		
4	My methods of instruction depend entirely upon my content.	2.19	.68	.51		
5	I think about students as individuals.	3.13	.33		.88	
6	I think about students as part of the class.	2.94	.50		.67	
7	The students' knowledge and my teaching role and objectives dictate my teaching strategies.	2.97	.47		.67	
8	I put learning theory, student competencies and teaching style together in a logical sequence.	3.06	.43		.60	
9	The first class session I find out who the students are as individuals, as separate beings.	2.67	.68		.59	
10	What I want to leave in students is a heritage where people care about other people.	2.94	.50			.80
11	I try to protect the students' self-esteem and I can do that only when I'm close to them.	2.35	.73			.67
12	As I practice the art of teaching, I can tell automatically if I'm losing students by all kinds of things that may be unique to the U.S. culture.	2.87	.60			.67
13	I like to find out about the student's homes, their families, their hobbies, what sets them apart as individuals.	2.90	.68			.65
Eigen Value				12.58	6.33	5.52
% of Variance				17.7	8.9	7.8

MEANS, STANDARD DEVIATIONS, AND FACTOR PATTERN

	Item	$\bar{x}$	sd	Educator's Perceptions of Student Need	Group Process	Classroom Methods
14	After I know the students, I eventually move into what their objectives are for the course.	2.96	.59	.83		
15	Like a parent toward a child, I show a caring attitude toward student.	2.94	.83	.66		
16	Students are always motivated - maybe not where I want them to be motivated, but given time I can change it.	2.31	.67	.62		
17	Every fifteen different students come from fifteen different worlds.	2.81	.63	.60		
18	A student's need is always there.	2.87	.65	.58		
19	A teacher must love the students or they cannot love teaching or the subject.	2.35	.69	.53		
20	I use group process to teach how groups work.	2.90	.72		.90	
21	I use group process to see how the students get along.	2.84	.62		.89	
22	When a student reacts negatively to me, I need to find out what is wrong.	2.91	.52		.53	
23	I try to be a friend to each student.	2.34	.85			.85
24	I want to be a friend with all the students.	2.30	.83			.80
25	I want to meet students' needs the best I can, but still carry out my responsibilities as best I can.	3.17	.36			.58
26	I use different styles within any class depending upon the experiences and life styles of the students.	3.00	.25			.50
Eigen Value				4.75	3.96	3.60
% of Variance				6.7	5.6	5.1

Factor Loadings < .50 are omitted
(Rotated factor matrix varimax converged in 86 iter[illegible])

GROUNDING INSTRUMENTATION IN REALITY: DEVELOPING TOOLS FOR EXTENSION EDUCATORS

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INTRODUCTION

The authors of this study have done a tremendous amount of work in reviewing the related literature for the current study. Evidence is offered by the breadth of sources cited and the variation which exists within those sources. As a teacher educator, and teaching in the areas of culture, I have found it most difficult to define subculture or predominate culture in teaching any clientele group about culture and its implications on teaching. I commend the authors for the lengthy attempt to define and clarify the term subculture as used in the current study.

As in the previous study I discussed, the authors of this study have made a very conscious effort in focusing on a specific problem as it relates to the extension clientele group of adult educators. However, I would like to emphasize one point the authors made in their introduction section. It would be highly beneficial for extension faculty, at all levels, to be able to identify and alter their individual teaching preferences based on cultural sensitivity and learning preferences of the clientele group being served, whether the group be youth or adults.

PURPOSE AND OBJECTIVES

The purpose of this study was to explore and describe the nature of the process of teaching in the subculture. The authors, again, very carefully and skillfully, have identified factors related to the teaching process and placed special emphasis on sensitivity and inclusion. Furthermore, the authors very clearly defined each construct and its relation to the current study. The objectives of the study were clearly stated and in harmony with the purpose of the study.

PROCEDURES

To be upfront about this study, this is the area where I began to loose clarity. On my behalf, confusion also arose. The authors, in conducting the study used both qualitative and quantitative methods. Although the authors identified the two step process used in the study, when the description of the research process begins, I loose direction.

In the population aspect of the study, it is inferred that two populations were studied. One population was any adult educator at The Ohio State University and the other population was a sub-sample. The authors are not clear as to whether this was a sub-sample of the population of adult educators or a sub-sample of the sample. By further reading, the reader will learn that the sample was four and the sub-sample was 34. Only by further reading is the question of sampling clear. The authors should be clearer regarding the selection of both samples or of the two populations. Wasn't there only one population and two samples?

Instrumentation, data collection, and analysis. Joe and Emmalou, this is where I really lost it. My ultimate question is this: Can anyone in this room pick up the paper which you presented today and return to their home offices and be able to duplicate this study without having to call you for assistance? I think not. But, please don't take this as a criticism. Both of you are on to something. What exactly I'm not sure, and I'm not sure you know either. But keep pushing.

RESULTS

In the end, the authors through the qualitative initiative, have produced ten trends. Of the ten trends, four are related to sensitivity and three to inclusion. The three remaining trends did not fit into any of the established categories and I wonder if a third category cannot be named such as perceptions towards educators and students.

In regards to the Likert-type scale or the quantitative dimension of the study, six factors accounted for nearly 52% of the variance. In contrast, six variables accounted for 14% of the variance in the previous study I discussed. Have the authors began to question what could explain the remaining 48% of the variance?

CONCLUSIONS AND RECOMMENDATIONS

The authors have clearly stated conclusions and recommendations which were based upon the data collected. I look forward to reading about the results which will be drawn based upon the development of the two instruments.

In regards to your recommendation number 4, that the Ohio Cooperative Extension Service use the instrumentation being developed to sensitize and assist faculty in conducting and targeting educational programs, I only hope that the directions to use the instrumentation will not be as confusing as the process used to develop the instruments.

In conclusion, I'd like to state that I admire your willingness to pursue inquiry in such a diligent manner with what appears to be a very frustrating methodology.